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CORRECT PRINCIPLES IN DIET

ORVILLE HARRY BROWN, A. B., M. D., Ph. D.
Phoenix, Arizona

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Were my subject not so extremely important, I would apologize for presenting a paper dealing only with assembled facts. Research upon diet has been going on in so many places in the past twenty years, and the results have so often upset preconceived notions, that keeping pace with the discoveries has not been an easy task for most of us. My intention is, in the main, that this paper shall be a resume, in brief, of those facts which we should teach our patients.

Variety. Each individual should eat as wide a variety of food stuffs as his age and condition will permit. The needs of the anabolic process are better served by a wide variety than by a narrow selection. We know, for example, that there are at least six vitamins and that these are not all supplied by any one food. Other clemical substances, so far as present day knowledge goes, may be of even greater importance than vitamins and a wide variety of food stuffs is most certain to contain all necessary elements. Someone has likened the body to a house. Either can be best constructed from a wide variety of materials rather than from a limited variety.

Habit is a factor of great importance in the whole question of diet. Each people has its own more or less characteristic methods of preparing foods and often a peculiar source of supply for many of them. The standard joke about "Mother's cooking" is proof that we are creatures of habit about what we eat. Granting that it does make a difference as to what we eat, it becomes important for us to try to develop the habits we should have about eating and to teach the same to our patients. But little will be accomplished with the adults, probably, until the time arrives that they fully realize, as Osler said, that the grave is dug with the teeth. The old adage is so a propos when it says, "A horse can be led to water, but you cannot make him drink." We can be told what we should eat, but, in the preponderance of cases, we go right along eating what we were allowed, in childhood years, to eat.

Our program may well be directed, then, at the child and let the grown-ups simply absorb for themselves what they may and will. Children may be taught to like the things they should eat. This may not be easily accomplished. More than likely it will take years to get a child to actually like many of the things that he must be forced to eat. Vegetables are more difficult to acquire a taste for, it seems, than are most other foods. Therefore the parent should start giving the child tastes of vegetables just as early as, in the judgment of the physician, it is wise. It has long been the custom to give the babe a chicken bone or a bacon rind to suck before any other food than milk has been given. It would seem that a celery stalk or a carrot or a turnip or some other vegetable would be more appropriate and give a child a slight familiarity with the vegetables if not a taste for them. At the same time, a few drops of the liquor from whatever vegetables come to the family table may be put, by means of a clean spoon, upon the child's tongue before he has reached a rebellious age or a sufficiently rebellious age to keep the parent from doing it. As the child gets older his plate should be served with what the table affords and not according to his desires; and that only a polite amount is to be left on the plate, should be thoroughly understood.

What applies to the habit of eating variety of foods, applies also to the quantity. Many persons go through life eating too much food and are, consequently, too fat; others eat too small an amount and are, as a result, too thin. Habit is often the controlling factor. Most fat persons are reg-

ular eaters and enjoy food. Thin persons usually eat lightly and are irregular in their desire for food. In other words they are apt to be finicky. Teaching an obese person that he must regularly eat less food and less nutritious food, will cause him to develop habits of eating which will, in due time, give him a much desired reduction in weight. The opposite applies to thin persons.

The Correct Foods to eat are not necessarily the same for any two persons. If one satisfies the question of variety and quantiy and then does not go to excess on any certain article, or articles, and is in good health and weight, there is little more that need be added, or profitably can be added. But for those who are not in good health or the proper weight, the character of the food may be of extreme importance.

The character of foods must be understood from the standpoint of their chemistry of the body in both health and disease.

Proteins are complex chemical substances. They undergo digestion in the stomach and intestines and absorption therefrom into the blood. From the blood, the split proteins may be taken and utilized for construction or reconstruction of important parts of the cell protoplasm.

In youth, the period of growth, the cell protoplasm demands a greater amount of protein than in adult life. In the event that an amount of protein in excess of the needs of the cell protoplasm is eaten, the body has to further oxidize the absorbed protein products. A long list of end products results, such as urea, uric acid, creatin, creatinin, etc., all of which are more or less toxic if present in sufficient quantities. The conclusions from these facts are that a person should eat just that quantity of protein which is demanded by the protoplasm for his growth or reconstruction and protein should not be a food eaten for the purpose of supplying energy. Protein is not an economical source of energy.

The body harbors bacteria of a greater or less grade of virulence. It has long been known that when virulent bacteria grow upon a protein mixture their toxins are more potent than when grown upon mixtures free from protein. This may easily be a question of extreme importance. It will certainly be of much importance whenever the bacteria are inhabitants of the alimentary canal, as they are apt to be in almost any sort of infection. Whether an excess of protein products would tend to make bacteria growing in the blood stream produce a more potent toxin or not, is a question; but it would seem probable that the excess protein in the blood would stimulate the bacteria to make a more active poison. In infectious processes, then, an excess of protein is definitely contraindicated.

In processes in the body where active destruction of tissue is going on, an excess of protein in the diet adds an excess of protein split products to those poisons that are being produced by the disease. In such conditions an excess of protein is contraindicated. It may even be wise in many of these cases to prescribe a protein-free diet —or as near such as possible.

....**Fats** are useful in the body for padding out the hollows and protecting soft structures. There seems to be little doubt but that they have much to do in some unknown way with immunity. The individual who has a fair amount of adipose tissue has, unquestionably, a greater protection against certain infections, notably tuberculosis, than have thin individuals. Fats are rich sources of energy. When there is normal carbohydrate metabolism in the body, fats are readily oxidized to carbon dioxide and water, neither of which is toxic. But if the carbohydrate metabolism is deficient, incomplete oxidation of the fats results and there accumulates in the blood such products as acetone, oxybutyric acid, and diacetic acid, all of which may be excreted in the urine. The person who is obese has sufficient fats of his own and hence should not have them in his diet. For the person who is thin and has a normal carbohydrate metabolism, a liberal quantity of fat should be regularly in the diet.

Carbohydrates are stored in the body in the form of glycogen and undergo oxidation, supplying energy, and the end products are carbon dioxide and water. In the event that an over supply of carbohydrate is eaten—more than is needed for supplying energy for the time being—the excess is stored in the liver and muscles in the form of glycogen.

If a time comes when not enough carbohydrate is taken to supply the energy demands for the immediate period, the store of glycogen is called upon; and if little or no carbohydrate is eaten, the store of glycogen is soon exhausted. The fat is then burned incompletely and a fatty acid poisoning and acetonemia results. The lesson from this is that a person should be supplied regularly with a reasonable quantity of carbohydrates. In febrile conditions, especially where the temperature goes high and remains so consistently, the

carbohydrate supply should be proportionately greater than in the normal person. It should be emphasized that carbohydrates are the easiest oxidized of any food, the end products from their katabolism are totally innocuous and they are essential to normal fat katabolism.

The tolerance of persons for carbohydrates should be knwon, because those who do not handle the carbohydrates well get disturbances from them.

Vitamins are elusive chemicals of unknown structure which are absolutely essential to health and even to life. They are believed to be at least five in number; when any one vitamin is absent from the diet serious disorders result. The absence of **vitamin A** in the diet of young animals results in failure to grow and a disease of the eyes, xerophthalmia, in which the eyes are very subject to infection, and it may even result in blindness. The absence of vitamin A also causes a general susceptibility of the body to infection and it is therefore essential for the maintainance of general health. It may also increase the length of life and be of importance in reproduction. Vitamin A is supplied by butterfat and milk, especially if the cows have been fed on green fodder; it is present in egg yolk, the germ of cereals, green leaves and cod liver oil. It is fairly resistant to heat, and drying. A liberal quantity of vitamin A bearing food should be regularly in the diet, although the vitamin is stored in the body to a limited extent.

The absence of **vitamin B** from the diet, in the young, results in a failure to grow, and in adults results in beri-beri. Recent work indicates that it has marked effect in stimulating the appetite and perhaps in sex interests and functions. It is present in largest amounts in yeast, but also in green leaves, spinach, lettuce, celery, asparagus, beans, peas, milk powder, the embryo of grains, and eggs. It is stable to drying; but it may be destroyed by heating to such temperatures as are used for canning. Uncooked vegetables will usually supply it in adequate proportions.

The absence of **vitamin C** results in scurvy. It is found in citrus fruits, cabbage, lettuce and tomatoes in large amounts, also in spinach, onions and fresh peas in lesser quantities. Milk, excepting the prepared milks, contains some C. Drying destroys vitamin C except it be in acid solution as is the case with citrus fruits. Heating is apt to destroy it.

Vitamin D, according to the latest information, has to do with assisting the body to make full use of calcium. It is found in cod liver oil and is curative for rickets. D seems to be related to some product or effect of ultraviolet light. Foods with no D, when exposed to ultraviolet light, become antirachitic.

Vitamin E is essential for reproduction. Conception may result in its absence but the resulting embryos do not come to maturity. E is found in seeds, leaves, cereals, Wesson oil, crisco and olive oil. It is stable to heat and to drying.

The lesson to be learned from the study of vitamins is that a varied diet is to be eaten. Such foods as can be taken raw should be so taken. Leafy vegetables, the peelings of certain fruits, and milk and butter, should be regularly eaten. Foods that are too refined, as white bread for example, may have lost their vitamins. Most of all, the lesson is that the habit of eating vegetables, especially green vegetables, should be established in childhood, not only for the habit's influence in adult life but because children need vitamins.

Roughness is a property of certain foods which may have inestimable value in the relief of constipation as well as supplying vitamins and acting as bluff meals for those who should have bulk without rich nourishment.

The proper balancing of the acid and alkali ash equivalents of the foods seems to be of considerable and, perchance, of surpassing importance. Sansum classifies foods, with respect to their final effect upon the body, as neutral, acid or alkaline. One set of experiments reported by Sansum, which shows how important this subject appears to be, is as follows: A litter of rabbits was divided into two pens. One pen was fed grains and other foods which gave a definite acid preponderance to the ash of the foods. The other pen was fed a well balanced diet so that there were sufficient alkali ash foods to counteract the acid ash foods. The rabbits fed a preponderating acid ash diet died of arteriosclerosis, nephritis, and such affections, at about one year of age. The rabbits fed a balanced diet were still alive at the time of his telling of the experiment, which made these rabbits about three years of age. Sansum says it suffices to test the reaction of the urine to judge if the diet is balanced regarding the acid and alkali ash. It is nothing unusual, he says, to find the urine several hundred times as acid as normal. The test on the urine is made by means of two or more dyes—brom-thymol blue for the less acid urines and methyl red for the very acid urines will usually suffice. It is also necessary to have a color chart.

The neutral foods are butter, corn starch, cream, lard, sugar, tapioca. Acid foods are wheat products, corn, eggs, fish and meats of all sorts, oat meal, peanuts, and rice. Alkaline ash foods are almonds, apples, asparagus, bananas, beans, beets, cabbage, carrots, cauliflower, celery, chestnuts, currants, lemons, lettuce, milk, muskmelon, oranges, peaches, peas, potatoes, radishes, raisins, and turnips. The apples, bananas, muskmelon, oranges, and potatoes are highly efficient in reducing the acidity of the urine. There has long been a belief that the human race would be better if they ate more vegetables. The work on the acid and alkali ash plus that on vitamins may explain, in large measure, why the vegetables have been regarded as so essential. If the vegetables and other sources of alkali ash are as essential for us as Sansum's experiment upon the rabbits would indicate, they are indeed of great importance.

From the standpoint of **food sensitization, anaphylaxis and allergy,** the food that a person eats may be of extreme importance. Almost any part of the body may be affected by food sensitization. Duke makes the startling assertion that fifteen per cent of the population are affected by sensitization of one type or another. Probably not over one-half of the fifteen per cent have food sensitization. But, at that, if Duke's figures are anywhere near correct, there are a considerable number who have ill effects from diet due to sensitization. The way to prescribe a diet in such cases is first to test one's sensitization to the various foods by applying the concentrated proteins of the foods to scratches upon the skin or by the needle within the layers of the skin. This latter is the intradermal test and is probably to be preferred.

If my observations are correct, the person who is sensitized to certain foods becomes desensitized when he refrains from eating all foods to which he shows skin reactions. Eating those foods again in liberal amounts may produce sensitization to them. The person who is subject to sensitization should be tested and should eat none of the foods to which he reacts, for a month or more, and then he should avoid eating any article of food in large amounts and too frequently. This shows the importance of variety of foods in the diet.

Another procedure once described by me and which may be of great importance, is what I have called the **Food Addition Method.** This may be used in conjunction with the protein skin tests or without them. By this method the idea is to place the person upon one or, at most, two or three articles of food, preferably foods which the person does not often eat. If these foods are of those to which the person is sensitized, he will be made worse, but if the foods he has been allowed to have are not affecting him, and some of those that have been eliminated are the ones to which he was sensitized, he should be improved. By adding one food at a time and observing the effect of it, one may draw fairly accurate conclusions as to the effect the various foods are having upon the person in question. This method may well be used to supplement the sensitization skin tests.

Salts are ordinarily present in a varied diet in adequate amounts to supply the demands of the body.

Sodium chloride has been used as seasoning by nearly every one in liberal quantities and, until most recently, there has been none to advise against it. There has been creeping into the literature of late, however, evidence that too much sodium chloride is deleterious, particularly for certain conditions. Allen holds that, in hypertention and nephritis cases, the sodium chloride should be restricted to a minimum. His contention is that the sodium chloride is highly irritating to the kidneys in those cases. It is his belief that most persons eat too much sodium chloride and would do well to restrict it. His method of determining whether one is consuming too much of the salt is to test the urine for its content of sodium chloride, and if more than one-half a gram is being excreted in the course of twenty-four hours, that person is not on a salt free diet. It is often very difficult to get a person on a salt free diet, as most foods have native sodium chloride which connot easily be separated from them. It is possible to select foods which have a low native content of sodium chloride, but this, Allen believes, should always be done for all cases of hypertension and of nephritis. He also advises a low sodium chloride diet for obesity and numerous other chronic diseases.

Water should be drunk in liberal quantities with and between meals, unless there are specific contraindications. The drinking of water with meals was formerly thought to be contraindicated. But when the chemistry of digestion came to be understood it was realized that diluting the digestive fluids tended to hasten their activity rather than to reduce it. As diluting the body toxins tends to reduce their deleterious influences upon the cells of the kidneys and other organs, water should be

advised in large amounts whenever there is any undue toxemia of the body.

The estimation of the caloric value of foods is to be encouraged, especially for those who need to gage the amounts of their foods. For example, if a person is too heavy and knows how to estimate his calories and what the limit upon his calories should be, he is in a position to keep from eating such an amount as will add to his weight or he may even be able to reduce. The thin person can be sure he is getting enough calories to add to his weight, if he calculates them for each meal. There are several small books upon diet, on the market, which will help patients in calculating their calories, and physicians will do well to recommend these to their patients.

Hospital diet lists as prepared at present are, as a rule, nearly meaningless and need to be revised. I would suggest, in place of liquid, light, semi-solid, etc., some such list of diets as follows: fruit juice diet; carbohydrate gruel diet; vegetable soup diet; carbohydrate diet; fruit diet; vegetable diet; protein free diet; fat free diet; fat rich diet; high alkali ash diet; general diet; high caloric general diet; low colaric general diet; salt low diet; and salt free diet. By giving each of the above diets a number it would be easy to specify that one or more of the above diet groups be given any certain patient. The physicians and hospital dietician should have definite understandings as to the meaning of each diet so that there would be little chance of mistakes resulting. Someone may suggest better divisions than those I have proposed. But the working, with such a variety of, and suggestive, diet lists, would be comparatively simple for all concerned.

If a physician had an obese nephritic and wished to give him nearly nothing to eat and yet keep him from going into acidosis, and ordered the provided "light diet" as used by hospitals today, for him, he might get anything from lemonade or beef soup to oatmeal gruel and albumin water. But, were the hospitals posted on diets such as I propose, and the physician ordered fruit juices and sugar, he would have little fear but that the patient would get just what he wanted him to have and nothing that would aggravate the condition. Or, again, if the patient were a thin man with fever and the physician wished to keep him well nourished without risk of adding to his toxemia by using a high content of protein, the physician would prescribe a protein free diet. Were the patient running a temperature, he might wish to add a rich carbohydrate diet. Again, if the patient was a young person who had what might be a developing tuberculous process, a fat rich diet would, likely, be ordered. I must have said enough to make us all realize that the conventional, liquid, light, semi-solid and other similar methods of designating hospital diets, should be passé.

CONCLUSIONS

A wide variety of foodstuffs should be eaten. The habit of eating all foodstuffs should be started in childhood at the earliest possible age.

There are two great classes of individuals —those who like food and are too heavy, and those who do not like food overly well and are too thin. There is an obvious third class. It is of little interest in this problem. The fat folk should endeavor to cultivate appetites for the coarse foods with low nutritive value, while the thin ones should cultivate appetites for all kinds of food but especially for the highly nutritious ones.

It seems to be established that attention should be given to having the diet balanced as far as the acid and alkali ash equivalents of foods are concerned.

In certain conditions too much salt is deleterious. Perchance, too much salt is generally being used.

Protein should be in the diet in just such proportions as the protoplasm of the cells demands for growth or reconstruction. An excess is an expensive source of energy and a dangerous one because of the toxic end products of katabolism.

The eating of fats should largely be indicated by the weight. A thin person should eat an abundance of fat, while the fat person has enough of his own without taking on any.

Carbohydrates should be the one most regularly eaten class of foodstuffs, because they are the most ready source of energy and produce no toxic products, when the body can use them, and they are essential to the proper burning of fat. It is well, however, to know the tolerance of the body for carbohydrates so that the tolerance will not be overtaxed.

All persons should know how to calculate the caloric value of their food.

Water should be drunk with and between meals: the quantities should be large in cases of toxemia.

DISCUSSION

DR. I. D. LOEWY, Whipple, Ariz. (opening): Dr. Brown has given a most excellent outline of the fundamental principles of diet; he could hardly do more than that in twenty minutes. Diet is a matter of much controversy; the fact that we have so many fads in diet shows that the medical profession has not recognized the true value of this branch of medicine. The mention of vitamines and the allergic pro-

tein reactions suggests a few points. One is that the average individual is not correctly guided during childhood as to the proper diet. Dr. Brown mentions that it seems strange that we want to eat the things that will do us most harm and pass up those that do us good. Most children are spoiled and refuse part of the diet if the parent is not wise; most of us have examples in our own families where the vegetables, etc., are passed up for ice cream and pie.

Diet is a matter of national, as well as of individual custom, each differing from the other; the Japanese diet differs from the English and the English from the French. Vitamines are a matter of well balanced supply, with green vegetables to supply the vitamines and a diet that will furnish variety, which brings up the point that diet is an individual matter, in health and in disease. The doctor has taken up diet in health and has stressed the importance of guiding the child right and forming the habit of eating meat and potatoes and vegetables just as pie and cake. Diet in disease has gone through many changes and often the effect of diet has been observed long before the cause was known. Antiscorbutic diet was known for years before the reason for its effect was known, when the doctors used scraped fresh potato in treatment.

Regarding water during meals: this is not detrimental, except in one condition, and that is where you have a pale, undernourished child with a small stomach, who requires the full amount of food; if water is taken at the table, it will take up space that should be given to food; the stomach will hold only so much and a few glasses of water will fill the space, the appetite is satisfied and he does not get enough food.

DR. PHILIP KING BROWN, San Francisco, Cal.: After many years' service in a large hospital, handling a variety of medical conditions, have observed many things about diet, and cannot resist saying a few words. The most striking contribution to diet in the last year was Minot and Murphy's report on the feeding of red meat and liver in pernicious anemia. No condition has been more hopeless than pernicious anemia; we have only to look at the life history of Admiral Peary who was transfused thirty-three times, to see how hopeless. These authors reported last fall in the British Medical Journal, and afterwards in the Journal A. M. A., forty-seven cases of pernicious anemia, only one whom has died. On this diet of lean beef, beef heart and large quantities of liver every day, with a suitable supply of green vegetables, these cases go on living, though they do not recover. We have tried it in the Southern Pacific Hospital, with the same result, that we have no trouble handling pernicious anemia cases; they do not have these exacerbations of trouble on this diet. It is not iron and arsenic that these people need, but hemoglobin, and they get it on this diet.

A word about the Sippy diet in ulcer. No class of people are worse than railroad workers in eating; they eat irregularly and as fast as they can, neglect their teeth and do all the things that make for ulcer. We have histories of three or four hundred ulcer cases since I took over that service; I have refused to allow the Sippy diet, as I think it is one of the most pernicious things in medicine. I have never used it in my life. It is like giving opiates in appendicitis, where you relieve the pain and obscure the symptoms. If you give a man a means of relieving discomfort after eating, as simple as taking soda or magnesia, you simply invite him to go on in his pernicious habits of eating, when the easiest, simplest thing in the world is to put him on a decent diet, at rest, for thirty-six hours, and he will have no more pain, as a rule. If you have a case of ulcer that has pain on a modified Lenhartz diet, which we have found successful, we have other diets. The Carrel diet is the basis of all diets that we use. I a man on a decent bland diet, largely made up of milk and meat, has pain after forty-eight hours in bed, with ulcer, he has a complication; it is not his ulcer that is primarily at fault in producing that pain. The complications most often present are chronic appendicitis with pylorospasm, gall-bladder disease, or adhesions between the duodenum and gall-bladder.

Another point I want to mention is the use of the Carrel diet in simplifying the hospital diet. Every case in ourservice, if there is any question about the diagnosis, is put on the Carrel det—four to eight ounces of skimmed milk at eight, twelve, four and eight o'clock. This is all the fluid he gets. We give it to all heart cases, because they should have as little burden as possible. You can slowly add to that diet by adding fruit juice, cooked green vegetables and, if high coloric value is needed, by using cereal with one of the meals; or we can add raw egg or soft cooked egg. I do not know anything that has reduced the question of diet to simpler terms than beginning with that system for practically all cases.

With regard to the Allen diet: I think his contribution to the treatment of diabetes by diet, estimating the caloric value and amount of available carbohydrate in the diet, is as important to the diabetic as insulin. I have tried the salt free diet in high tension cases and do not think it is followed by the results that Allen claims for it. It is easy to reduce blood pressure but not so easy to keep it down. Liver extract brings the high tension down but you cannot keep it there. We have abandoned the use of it because it is not of permanent value.

Am glad Dr. Brown spoke on this subject, because it is our business to learn about the variations in diet; it is exceedingly simple if you get down to fundamental facts.

DR. R. J. CALLANDER, Tucson, Ariz: Would like to ask Dr. Brown (Philip K.) how he explains the relief of ulcer in forty hours by rest, if the pain is due to the effect of acid.

DR. P. K. BROWN, San Francisco, Calif.: Stopping pain by this diet is very simple. Milk is a bland food and does not stimulate the formation of acid; milk, therefore, minimizes the acidity and does it naturally instead of chemically, which, I think, is wrong. You can neutralize your acidity simply and naturally and normally in every case. Whenever the pain is persistent, it is evidence that you have something more than ulcer to deal with.

DR. R. J. STROUD, Tempe, Ariz.: With regard to habit in eating. Recently there has been a discussion in the Literary Digest as to why the Indians are a vanishing race. I have asked many of the Indian women why they are not so prolific as they used to be. These Indians, while not prolific as they trained, believe it is because of the new kinds of food they are using. Among the McDowell Indians, out of 58 families, there are 30 in the adult child-bearing period; there have been only eleven births in eleven years, and they do not know anything about birth control; none of these eleven children were healthy and three had congenital faults. Something has changed these Indians from being a prolific race. These Indians attempt to explain it by diet; I have tried to explain it by tuberculosis.

DR. ORVILLE H. BROWN, Phoenix (closing): The important point that I wanted to make is that we need to study this question more and do more toward teaching people about feeding children. It is important, in the early years, that they be given choice of vegetables; some of these put on the plate and child be told he must eat them. Wish to thank Dr. Philip Brown for entering into this discussion, because his points are important. The new ideas on diet, the use of liver, etc., are wondefud advances. There is much that we do not know about diet, it is true. The important thing is the habit, which is something very difficult to get.

THE USE OF THE CAUTERY IN THE TREATMENT OF CANCER

CLARENCE E. REES, M. D.,
Rees-Stealy Clinic,
San Diego, California

(Read before the Thirty-sixth Annual Meeting of the Arizona State Medical Association, held in Yuma, Arizona, April 21 to 23, 1927.)

In the last few years much has been done by various organizations in enlightening and educating the general public on the cancer problem. More or less systematic campaigns have been carried on urging the early treatment or removal of points of chronic irritation and the examination of lumps of any kind. The result is that many more patients are coming to us while their lesions are still in the early stages, or with points of irritation which they have been told may lead to cancer. This propaganda will ultimately do a great deal of good and in those medical centers in which clinics are interested in this work something has already been accomplished.

Bloodgood, recently, in speaking of oral cancer, states that up to 1920 only three per cent of the lesions of the oral cavity for which patients consulted the Johns Hopkins Clinic, were benign; since 1920, sixty per cent of these lesions have been benign. Up to 1920 the percentage of early cancer cases which could be cured was three per cent; since 1920 this percentage has increased from three to almost seventy per cent in this same clinic. Before 1920, fifty-five to sixty per cent of the lesions were inoperable but since that time this figure has dropped to less than ten per cent. These figures show what can be done by education and, while Baltimore has been particularly active in this work, such results will eventually become general. At the present time, in the outlying districts and even in the cities, the general man who is usually the first to see these patients is not, as a rule, equipped to take care of these apparently minor lesions and passes them off with the assurance that no difficulty will result.

While a great deal of work has been done in the study and grading of malignant conditions, our knowledge of the etiology is not all that we might wish and our work must be based on facts derived from clinical observation. These facts are as follows:

1. Points of chronic irritation involving epithelial structures often lead to cancer.
2. Cancer starts at a single point and develops from that area.
3. Cancer untreated usually kills its host.

From the foregoing it would seem most necessary that the men in general practice and those in specialties become interested in and prepare themselves for the treatment of precancerous and early lesions. A disregard of the complaints of these patients often furnishes just enough assurance of safety to carry them from the operable to the inoperable stage before again consulting their first, or another physician.

If both the profession and the laity can be impressed with the importance of treating the irritated conditions early and radically, we will see fewer of the advanced and distressing lesions which require disfiguring and mutilating operations. Any physician who has the opportunity of visiting the charity institutions and seeing the inoperable cases, whose suffering can be only partially relieved while they wait the end, will appreciate this statement more than will the man immersed in his private work. The fact that all advanced lesions have developed from a small mass, a keratosis, a small ulcer, a leucoplakia, or a mole, makes this terminal lesion seem most unjustifiable and the result of negligence on the part of either the patient or a former physician. I often think that barbers and attendants in beauty parlors understand the situation better than most of us. Although they know nothing of treatment and often, by their efforts, stimulate a benign lesion so that it becomes malignant, they nevertheless recognize the potentialities and suggest or try to do something for their clients.

There are several recognized methods of treating these conditions and all are more or less satisfactory. Not all are available in every locality, however, and, if general results are to be obtained, a method should be adopted which can be applied in the country as well as in the city.

The x-ray, radium and diathermy are of value in the treatment of these conditions but the cost of equipment and the fact that more or less specialized knowledge is necessary for their use, make them prohibitive in many instances. In the rural districts specialists are frequently not available and it is the general practitioner who sees these patients first, and he should be able to care for them when they present themselves. Furthermore, a patient occasionally loses contact with both physicians when he is referred from one office to another.

The use of the actual cautery in the treatment of precancerous and early lesions is well recognized the world over and gives most satisfactory results. Any one of the light types of cautery may be used. They are inexpensive and so can be obtained by any one; their use is not complicated and,

with an understanding of what is o be accomplished, require only the simplest knowledge of surgery.

All external precancerous and actively malignant lesions may be treated by this method which permits the operator to work in or close to the involved area and gives the greatest assurance of a clean result with a minimum of scar.

With the cautery, general anesthesia is not required in these early lesions. Novocain, ½ to 1 per cent, used as nerve block or injected around the involved area, is simple and gives a satisfactory anesthesia. Great care should be taken not to pass the needle through or into pathological tissue. This precaution is of the utmost importance and failure to observe it may carry malignant cells into normal tissue beyond the area of possible removal. The following case reported emphasizes this point.

The patient, a female, age 62, was operated for carcinoma of the lower lip six months before I saw her. The usual V-shaped incision was used, followed in ten days by a submental and submaxillary dissedtion. When I first saw the patient a small painful nodule was present at the lower end of the incision but this nodule was not characteristic of a recurrence. With a novocain block of the mental foramen, directing the needle to a point which I thought was well below the involved tissue, I removed the nodule with the actual cautery and had radium applied. The patient went home but in three months returned complaining of severe pain in the lower jaw. A small mass was present in the region of the mental foramen. Under general anesthesia this was explored with the cautery. The nodule was found protruding from the mental foramen. The buccal plate of the mandible was removed and the entire neural canal was found to be eroded and involved to the angle. This was cauterized and later removed. I cite this report to illustrate what I believe to be an extension of the malignant process resulting from the use of the hypodermic needle.

After anesthesia is induced, the lesion may be attacked in one of two ways:

1. By infiltrating the involved area with heat. This is done by applying the cautery over the entire surface, holding it in one place until the heat has penetrated through the base, and then moving the tip to the adjoining area, repeating this process until the entire lesion has been completely devitalized. It is not necessary to apply the cautery to the normal surrounding tissues as these can be infiltrated from the growth which, when sufficiently heated, will contract, leaving the normal border white, which assumes the color of a third degree burn.

2. Should the area be larger than one centimeter, it is better, I believe, to excise it with the cautery. This is done by encircling the growth, carrying the incision about 3 mm. outside the visible area of involvement and removing the entire mass at the base well into the normal tissue. This incision is made by following the Percy method of penetrating the normal tissue external to the growth and carrying the incision completely around, cutting from within outward. You will note that this procedure is the direct opposite of that employed in incisions made with the scalpel. This manner of using the cautery lessens the destruction of normal epithelium. These wounds do not bleed when sufficient time is taken to coagulate the tissue and they are surprisingly painless.

In treating the more extensive and advanced lesions, two factors must be recognized: first, the entire area must be removed or destroyed, and second, every precaution must be taken during the procedure to prevent the transplantation of malignant cells. As yet the effect of the x-ray or radium in a given lesion is an unknown factor. In one case their effect is almost magical, while in another apparently similar case, they are inert. Then, too, we have no assurance that a lesion treated by radioactivity will not recur and the majority of such recurrences will not again react o these agents.

Cold surgery necessitates a wide area of removal resulting in unnecessary scarring and, should the growth be opened or cut into, a wound ideal for the reception of malignant grafts is given. The cautery, when used to infiltrate, is under control of the operator and he may do as much or as little as he desires. Any mass can be actually destroyed if the operator has the courage. In the removal or excision of a growth, any cells exposed in the malignant mass are destroyed and the base of the wound contains only devitalized cells which must be cast off before any kind of a graft can take—a process which usually requires three weeks. This fact alone makes the cautery more effective than any other method.

The treament of advanced lesions requires more extensive procedures which are technically more difficult. The type of cautery used on the larger growth is important and may be the determining factor in the results obtained. For example, the removal of a breast or a large mass with the smaller cauteries is a tedious and difficult process. The heating elements are not large enough to keep the tips hot and the tips are not strong enough to withstand the pressure which is required when insufficient heat is present; they often bend or break. The Percy cautery is by all means the best for this type of work. On the other hand, growths around the mouth or eyes can be

well handled by the smaller instruments as the tissue is cellular and cuts easily.

The temperature of the tip of the cautery is important. Although Scott recommends the use of red heat, I have found Percy's technic the most satisfactory. By Percy's method, the tip is energized to a black heat of sufficient degree to cut easily and still be under the point of carbonization. Carbon on the cutting tip acts as an insulator and materially reduces the speed and efficiency of the instrument. When the proper heat is attained, very little pressure is required to penetrate even the heaviest type of tissue.

As for the type of anesthetic employed, ether may be used except for removing lesions on the head and face; in these cases we induce anesthesia with ether and shift to chloroform before starting the operation. Under no circumstances do we use ethylene when the cautery is employed.

As stated above, these wounds do not bleed when the tissue has been properly heated. Should small blood vessels ooze, they may be coagulated by the tip; only large vessels have to be ligated. In one case we removed the tonsil, soft palate and about one-quarter of the posterior portion of the tongue without a ligature and without bleeding. Another case presented a tremendous growth which had originated in the external ear, spreading to the side of the face and head until it had assumed the size and shape of one-half of a cabbage; it was very vascular, ulcerated and friable in texture. Before starting removal, the surface was coagulated but each time the mass was touched with the large tip the coagulated tissue separated from the growth and a stream of blood followed. Four or five such attempts resulted in a very considerable flow of blood which showed no tendency to stop. Resection of the tumor in the normal border was started and the entire mass removed from a dry base. This process required two ligatures, one on the superfical temporal artery and the other on the posterior auricular artery. In one case with an advanced growth of the cheek infilterating the antrum, the entire cheek, zygoma and masseter muscle were removed and the antrum completely cauterized with no bleeding. Two ligatures were used, one on the facial artery and the other on the transverse facial artery.

Large growths may be removed with comparative ease since the field is dry and the visibility excellent. The removal of the breast and axillary dissection is much easier with the cautery than by the classical method. Large carcinomata of the head and face involving the antrum, tonsils and tongue are amenable to treatment with the cautery. When the base of the growth cannot be removed entirely, it may be infiltrated with heat and allowed to slough. This combined method often gives remarkable results. In any lesion the glands draining the area should be removed and the cautery used if there is any evidence of existing metastases.

I wish to urge the importance of a careful search for regional and distant metastases in patients with known malignancy, before attacking the local lesion. This precaution we owe to ourselves as well as to the patient for it is most discouraging to have a lung, bone, or liver metastasis become evident two or three months after a "successful" operation has been performed on the primary growth. Failure to make such a search has done much to lessen public opinion of our ability to treat this condition successfully. A year ago I saw an elderly man with an advanced lesion on the lower lip which involved the periosteum of the mandible and was ulcerated on the inside. He appeared to be in good general condition and gave no history of any other trouble. General examination was negative except for an enlargement of the submental and submaxillary glands; the cervical glands were not palpable. The lower lip and submaxillary glands were removed at one time. Five days later the patient vomited and purged blood and an x-ray examination disclosed an advanced carcinoma of the pylorus. This was also the terminal lesion of the first case reported in this paper; this patient died from a huge carcinoma of the pylorus 18 months after her first operation. I am of the opinion that these stomach growths were secondary to the mouth lesions, the result of fragmented cells which had been swallowed and had engrafted in the region of the valve.

CONCLUSIONS

1. All physicians in active practice should become interested in and be prepared to treat properly, precancerous and early malignant lesions.
2. The cautery is within the reach of all and its use offers more satisfactory results than any other method of treatment at our command.
3. The use of the cautery reduces materially the possibility of a local recurrence.
4. A careful examination for superficial and deep metastases should be made before attacking the local growth.

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DISCUSSION

DR. CHARLES A. THOMAS, Tucson, Ariz., (opening): I appreciate the privilege of discussing this paper because it is most timely and of a great deal of value. Personally, I would not attempt to practice surgery without the cautery. It is the greatest instrument that the man who does a large amount of minor surgery can possibly have around his office. I want to mention the value of education of our patients on the subject of cancer; we should call their attention to the fact that one woman out of every five over the age of forty, dies of cancer. Therefore, when I am examining patients routinely in the office, I always look in the mouth for teeth that cut the tongue or mucous membrane and other irritating areas about the mouth, point them out and stress their significance. Teach them to become familiar with the breasts, to go over them once a week and see whether any nodules have developed; if so, to see their physician and have them removed. Only by this means are we able to save a large percentage of these cancers of the breast. The doctor did not mention the value of the cautery in the correction of ulcerations and erosions of the cervix; we always tell our patients about the possibility of these ulcerations developing into malignancies. Nothing is so valuable, so clean and so certain as the cautery used on these lesions. Use a low degree of heat and cauterize them as if you knew they were malignant to start with; destroy all the glands; at that age they are of no value and simply represent possible foci of cancer. In anesthetizing, never put local anesthesia into the local lesion; go around it and block it off far away from the lesion. In many of the minor lesions, you do not need anesthesia at all. I have seen Dr. Percy take off quite large areas without using local anesthesia at all; that is asking much of the patient but it can be done. One further word: after removing breasts or large malignancies, always be prepared at the end of two or three weeks for a hemorrhage. Have had some alarming hemorrhages following some of these large dissections. Wish to emphasize again that the doctor's paper is the most valuable thing that could possibly have been presented to us.

DR. A. E. GALLANT, Los Angeles, Calif.: Would like to ask what experience the doctor has had in bone growths; also as regards the education of the patient with respect ot the cautery. Had occasion to see a young boy with periosteal sarcoma of the leg, not very large; we did not get all the cancer tissue and had to amputate the leg; it is now eighteen months and believe we have a cure. With regard to the slough and hemorrhage. Dr. Percy had a lot of grief with his patients from using Carrel-Dakin solution; investigation showed that the chlorine was dissolving the blood clot out of the end of the arteries. He conceived the idea of using sugar, and found that the action of the sugar prevented sloughing and hemorrhage; also, sugar killed the odor from the mass of sloughs, which was a good thing for the surroundings of the patient.

DR. W. WARNER WATKINS, Phoenix, Ariz.: Should like to ask the doctor's opinion as to the comparative value of the Percy cautery and electro-coagulation, on the lesions of which he has spoken.

DR. CLARENCE REES, San Diego, Calif. (closing): The one thing I wanted to bring out in this paper is that it is useless to educate the public if we, as a profession, are not going to think in unison. In our locality, it is surprising how many people have consulted physicians and been told that their head lesions are of no importance. In the large services and charity institutes, where we see end results—because it is there that the end results apply—we realize that it is the general man who needs education. About two months ago I had an experience of this kind. A man came from Riverside to see what could be done. He had had a pigmented mole on the back for years; it started to grow and he consulted a very good man in Riverside, who referred him to a very good radiologist, who treated it with x-ray. Inside of three months, the primary growth ulcerated and he had nodules all over him, varying in size from a pea to end of the thumb, and involvement throughout. The point is that a scar in the lumbar region does not amount to anything, so why not have it taken out? He carried this mole all this time, until it began to enlarge; it may have metastasized before he had treatment; however, there was no excuse for not removing it.

In regard to Dr. Thomas's point about having the patients examine the breasts: I do not exactly agree, because it is a bad thing to get patients apprehensive over things that MAY occur. Patients who trouble us most are those who are apprehensive over a little mastitis, feeling the breasts for this and that. They should be warned about definite symptoms.

In regard to using the cautery without anesthesia: Dr. Percy's using vocal anesthesia on these patients—talking them out of it—may get them into a mental state where it does not hurt much, but why not use local anesthesia?

I have had no experience wtih bone growths.

As to electro-coagulation: on the superficial growths it works exactly as well as the cautery, but not every one can have an electro-coagulation outfit.

THE LOW TRANSPERITONEAL CESAREAN SECTION

STERLING N. PIERCE, M. D.
Los Angeles, California

Read before the Thirty-sixth Annual Meeting of the Arizona State Medical Association, held in Yuma, April 21 to 23, 1927.

The introduction of the low transperitoneal cesarean section has increased the safety of abdominal delivery. Stoeckel', director of the Women's Clinic of the University of Berlin, recently referred to this operation as the modern section, which comes off easily, and in a manner almost totally free from danger for the mother; and he added that an artificial delivery more sparing for the mother and safe for the child does not exist. It is a reliable operation at a time and under conditions when the classical section has become so risky as to be prohibitive; after a prolonged test of labor, after vaginal examinations, and after rupture of the "bag of waters." On the other hand, its points of superiority make it preferable to the classical section in those cases where delivery before the onset of labor is necessary.

Its introduction has increased the safety of abdominal delivery immediately, because it has reduced the risk of peritonitis, and remotely, because it has reduced the risk

of rupture of the uterus in subsequent deliveries.

The minimization of peritonitis as a morbid and fatal complication is due partly to the location of the incision in the lower zone of the uterus, since, in a few hours after operation, it becomes a pelvic wound. Hofbauer[3] has shown, to the satisfaction of Dr. Williams, that the cellular tissue about the cervix possesses certain protective features that enable the pelvic structures to bear injury and infection. The important element, however, is the covering of the wound by peritoneal flaps. This procedure immediately seals the uterine wound, and so prevents infectious lochia from leaking into the peritoneal cavity. Authorities believe that it is not so much the spill at the time of operation as it is the lochia escaping through the uterine wound, that is the underlying factor in infection.

There are several factors making for a safer scar. Chief among these is the presence of the strong fascial layer which covers the musculature of the lower uterine segment. It is true that there is authority for believing in the reasonable safety of the scar in the high operation. Williams[4] states that a well-sutured wound followed by an afebrile puerperium leaves a strong scar which will be safe in future pregnancies and labors. Nevertheless, Newell[4] states that four per cent of previous sections of the uterus by the classical method rupture either before or during labor. Hillis[5], in 1925, reported four cases of ruptured uteri following classical section; these cases were brought to Cook County Hospital in extremis, the rupture having occurred before the onset of labor. Several cases of ruptured uteri after a high section, have been operated upon at the Los Angeles General Hospital during the last two years. Last March there was a case of rupture in the fifth month of gestation; the patient, who was under observation in the obstetrical ward at the time, had undergone two previous classical sections. Holland[6] published, a few years ago, a collection, as complete as he could make it, of pregnancies after classical cesarean in England, with the incident of rupture. He reported one rupture for every four spontaneous deliveries following classical section. Rupture of the scar is generally recognized as a real danger by German writers. Steinberg[7], assistant in the private clinic of Dr. Samuel of Cologne, mentions the collection made from literature by E. Schroeder in 1916, in which he sets forth a total of sixty-two ruptures of pregnant uteri after previous cesarean section. (To be sure, twenty-five of these were transverse fundal sections, and only twenty-eight were known to be classical.) This collection apparently covers a period of twenty years, since the first recorded rupture after the appearance of the modern cesarean as introduced by Saenger in 1882, was in 1895—reported by Koblanck.

It is early to make positive assertions about the low operation in this regard. As Steinberg says, in the same article, further experience must show whether the promise of Baisch—that the scar of the lower operation will heal better—will be fulfilled. Steinberg goes on to say, however, "As far as we can judge from present statistics, it seems to offer greater safety," and he affirms that the regeneration of tissue seems to be better than in the body of the uterus. The general feeling in Central Europe and France seems to be that the result of the adoption of the low cesarean is being shown to be a marked lowering of the incident of rupture. Hammerschlag[8] reports a case to the Obstetrical and Gynecological Society of Berlin, where the dependability of a low scar was shown by its perfect resistance in a case of transverse arrest. Brindeau[9] says that, after the transperitoneal section, rupture of the scar is almost never met.

It would be difficult to offer the solid foundation of statistics, but fortunately Wetterwald has set himself to gathering the facts as completely as possible. He has collected from the literature of the world 3600 cases of low transperitoneal section. He has been able to find ten cases of rupture, an addition of four to the six already collected by Schroeder in 1916. Realizing that these figures give no clue to the percentage of rupture, since it is impossible to know how many of these sections were followed by spontaneous deliveries, Wetterwald[10] has compiled a report from the 200 transperitoneal sections performed during the last ten years at the Canton Hospital of St. Gall, Switzerland—Dr. Paul Jung, chief. There were forty subsequent deliveries per vias naturales (of which thirty-four fulfilled the Sellheim requirement of being entirely spontaneous), with one rupture. H. Huber[11] reported, in 1924, twenty-eight subsequent deliveries per vias naturales from the two Walthard clinics, without any rupture, together with twenty-three repeated transperitoneals. He says of the latter, "In the majority of cases the scar was practically invisible."

In addition to the reduction of these two grave risks, there are other advantages to commend the operation to surgeons. The peritoneal adhesions to be found in almost

fifty per cent of the classical sections, are practically absent. The immediate post-operative gastric and intestinal disturbances are reduced to a minimum, as the intestines are rarely seen and therefore, rarely traumatized. Post-operative shock is remarkably absent; this, too, is due to lessened traumatization of the peritoneal cavity. The immediate hemorrhage is less, because the lower zone is less vascular than the upper zone—the musculature is thinner and it is, accordingly, easier to control the spurting sinuses with pressure at the edge of the incision. Placenta previa is handled with ease, because the uterine incision is over the site of bleeding.

The introduction of the local infiltration anesthesia has reduced the pulmonary complications which were incident to the ether anesthesia. In De Lee's[1] clinic the morbidity has been reduced from forty plus to twenty per cent since the introduction of local anesthesia.

The anesthesia is, however, a matter of choice. De Lee[1] has adopted the local infiltration method; he infiltrates each layer as encountered, using one-half of one per cent novocain. The success of this method is confirmed by the reports that have appeared from De Lee and his associates. The author, since his return from the clinic, has performed all sections except two under the local method. These two were performed in a hospital where an expert in ethylene is employed, and the author is frank to state that the post-operative convalescence compared very favorably with that of the others. Regardless of anesthesia, the technic of the operation is essentially the same, and the same careful dissection and handling of tissue should be observed whether the patient is awake or asleep.

The patient is prepared as for any laparotomy. The preparation of the lower abdomen must be carried to the upper end of the vulvar crease. The patient must be catheterized before the operation, and the catheter clamped and left in place. The abdomen is opened in the mid-line; the incision should extend from the upper border of the symphysis pubis upward from twelve to fourteen centimeters.

After the abdomen is opened, the edge of the parietal peritoneum is sutured to the edge of the subcutaneous fascia at four points: at the upper and lower angles, and in the middle of the incision on each side.

The lower segment will now be exposed. The upper limit is marked by a slight folding of the peritoneum, which gives the appearance of a transverse seam, and which De Lee has named the gray seam. This marks the point of the contraction ring, and its location in reference to the exposing wound depends on the length of the lower segment. The longer the parturient has been in labor, and the more dilatation has progressed, the greater is the length of the lower segment.

Above the gray seam the upper or contractile portion, the body of the uterus, appears, reddish in color, and with the visceral peritoneum so firmly attached that no amount of endeavor can strip it off. There is no fascial layer.

Below the contraction ring, or gray seam, is the lower zone, or the so-called lower uterine segment. The peritoneum is loosely attached, and may be picked up in folds like the skin of a cat. The fascia is well-developed, and, as it covers the uterine muscle, it gives a grayish-white appearance to the lower zone. The peritoneum, traced downward, is reflected over the bladder at the utero-vesical fold. The distance between these two points is about six to ten centimeters.

The peritoneum over the lower uterine segment is now incised transversely about three or four centimeters below the gray seam. This transverse incision is carried laterally on each side about six centimeters. Care must be taken that the incision is not deep enough to encounter the fascial layer, as the line of cleavage is above this layer in the sub-peritoneal tissue. If the fascial layer is disturbed, bleeding will be profuse, and technical difficulties will be created.

The two flaps are now made. The lower is dissected downward by the point of the finger, and, with the flap of the bladder, is dissected from its uternie attachment. The upper flap is made in the same manner, except that greater care must be exercised, as the flap becomes very adherent at the gray seam and consequently may be "buttonholed." The tip of the lower flap is sutured temporarily to the lower angles of the incision. This step prevents injury during the extraction of the fetus.

The lower segment is now exposed, and the uterus is ready for incision. Two Allis forceps are applied to the upper and lower end of the limits of the contemplated incision. The lower forceps are well down behind the posterior surface of the symphysis; the upper are about one centimeter below the contraction ring. The length of the uterine incision is about ten to twelve centimeters long.

The uterus is punctured at the top of the contemplated incision. If the "bag of

waters" is still intact, it is ruptured, and the spill is cared for by a suction pump. After the uterus has been drained, it is incised by one of two methods: either by slipping a modified tonsil knife through the incision, bringing the point out below, and then, by a sawing motion, opening the uterus the required length, or, better, by cutting with bandage scissors. Should bleeding from the edge of the wound become troublesome, the assistant should grasp the edge of the wound with Allis forceps spaced about two centimeters apart, removing them before the baby is delivered.

The delivery of the child follows. The face is sought for with the hand, and the finger is inserted into the baby's mouth. The face is then rotated into the wound, so that it is the presenting part. The assistant then replaces the operator's finger with his own, and steadies the head while the operator applies a pair of obstetrical forceps. De Lee has modified a pair of Simpson forceps by exaggerating the cephalic curve so that a better grasp of the head can be secured. When the infiltration method is being used, the occiput may be rotated into the wound, in the case of occiput anterior positions. The forceps are then applied in the same manner as when used to deliver the head from below.

Pituitrin is given as soon as the child has been delivered.

While the assistant is clamping the cord, the surgeon grasps the edges of the uterine wound with Allis forceps, peeling the membranes back from the edge as each forcep is placed. This step prevents bleeding from the sinuses in the wound.

The placenta, if not expelled spontaneously within five minutes, may be removed manually. The uterus is sponged out several times, and then packed with about four yards of gauze about two inches wide and several layers thick. The packing minimizes the bleeding from the fundus. The free end of the gauze is now sutured to a metal shuttle which is pushed through the cervix into the vagina, carrying the gauze with it.

The uterus is now ready for closure. Number two chromic gut is used to make a continuous suture down to, but not through, the mucosa. As the suture is placed, the Allis forceps are removed. The wound should be kept free of blood during the suturing. The next layer may be either interrupted or continuous. The third and last layer approximates the fascia. This suturing is the most important step, and is stressed by De Lee, as it unites that important structure, the fascia, which we believe renders the lower segment practically rupture-proof.

After the uterus is closed, particular attention is given to the denuded area over which the peritoneal flaps are to be sutured. Hemostasis must be absolute, as any bleeding here will lead to the formation of hematomata under the bladder, with subsequent infection and suppuration.

The lower flap is now sutured to the upper with plain gut. The parts are now restored to their original anatomical relation.

Should an indication for hysterectomy appear, the lower flap may be used to cover the stump of the cervix.

Post-operative treatment cannot be discussed here, except to say that the uterine tamponade is removed about eight hours after the operation. The catheter is removed at once, and the color of the urine is noted. If it is clear, it is concluded that no bladder injury has occurred.

The time required for this operation is somewhat more than that for a classical section; but this is in no way a valid objection to the procedure.

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DISCUSSION

DR. JOSEPH M. GREER, Mesa, Ariz. (opening): Over a period of twenty years I have been doing the classical cesarian operation. In my last fifty-seven cases I have used the operation just described to you, with no material mortality and no fetal mortality.

How does that sound?

I wish I could make some such statement, but, as a matter of fact, I have not practiced twenty years, and my last fifty-seven cases have not yet been done. I must confess that I have not done this operation at all, so you will see that I am entirely incompetent to discuss this paper. I might use the time in praising this very praiseworthy paper, extending congratulations and in expression of appreciation of the privilege of having heard it. Having admitted my unworthiness, if time is still allowed me, I will outline a few of the shortcomings of the classical cesarian operation and some of the advantages to be

gained from the procedure described, which is the operation of the future. De Lee once said that 'we are quite satisfied with a mortality of two per cent', but there was a desire on the part of the profession for something better and that may be the reason that this operation, which is very logical, was originated. The shortcomings of the original operation are shock, hemorrhage, late peritonitis, and rupture in subsequent pregnancies. Many attempts have been made to overcome this peritonitis, which spreads from the uterus at the time of the operation by leakage through the lacerated tissues. Since sepsis is a relative affair and there is always some infection a short time after delivery, it is easily understood how there is leakage and peritonitis. Where the wound in the uterus is not very tight, we may have rupture. Many things have been done to obviate this, from suturing the uterus to the abdominal wall to removal of the uterus, etc. There are many advantages to the low cesarian section which appeal to us: (1) incision in the part of the peritoneal cavity which is most resistant to bacterial invasion; (2) no adhesions and elimination of intestinal obstruction, which is one of the disadvantages of the classical operation; (3) cervical area stands infection better; (4) as stated, there is less hemorrhage and shock and a less stormy convalescence; (5) suture of the cervical wound is easier, on account of its location and difference in tissue; (6) the peritoneum is denser and much more easily handled; (7) healing of the wound is better; as Dr. Smith says, "splinting the abdomen" is accomplished by the anatomical location of the wound; it is not in the fundus where it is wabbling all around. The test of labor may be given in these cases; after the stormy convalescence of the clasiscal operation, the woman hesitates about further pregnancies; but after one of these operations she does not hesitate so much. Not so many cesarian sections will be done, because the test of labor can be given, and many will deliver without cesarian; then if we do have to perform the cesarian the danger line will be pushed back, because of these various advantages.

DR. A. J. McINTYRE, Phoenix, Ariz.: It is a well-known fact that infection in the peritoneal cavity can be pretty well taken care of, if the source is removed. For eight or ten days after emptying the uterus there is a constant contraction and relaxation of the muscular fibres, so that there is a constant drag and pull on the sutures, and any tuture will rupture more or less; even silver wire sutures have been known to rupture in the muscle of the uterus after cesarian. Since the uterus, during that first one or two weeks may be anywhere in the abdominal cavity, under the liver or deep in the pelvis, constant excretion is taking place through the uterine wall and disseminating infection through the peritoneum. If the incision can be made low down and the area kept entirely outside the peritoneum, it does not matter how much infection takes place. If we should have an accident in delivery and the head should tear through the external os, it does not make any great difference, as the infection will be outside the peritoneum. If abscess forms, it can easily be drained by puncture through the anterior culdesac, or through the space of Retzius, keeping the infection from the abdominal cavity. I think Dr. Pierce told me there have been no instances of rupture in this country following this operation, although about ten have been reported from abroad. One of the chief points should be kept in mind—to carry the incision low enough down against the pubic bone; every half inch in this space makes a great difference.

I wish to thank Dr. Pierce for bringing this most excellent paper and giving us a chance to profit from his experience.

DR. R. D. KENNEDY, Globe, Ariz.: Four years ago I visited Pollak's clinic and saw the pathological specimen from a woman who had died of septicemia after cesarian section. The interesting thing was that the specimen showed the anterior wall of the uterus around the incision had sloughed but the peritoneal suturing had prevented the infection from extending into the peritoneal cavity, and the patient had no peritonitis. It was very strong evidence to me that this operation has great value, if for no other reason than that. In our small communities we do not have many of these cases, and the question of infection is of great importance; we do not know how many times they have been examined or how carefully, so this operation is much safer than the classical cesarian in these cases. I also saw Pollak using iodoform gauze; we know iodoform is an inhibitor of colon bacillus infection and, as many of these cases have slight colon bacillus infection, there is some advantage in iodoform gauze.

DR. A. C. CARLSON, Jerome, Ariz.: Dr. Pierce places the patient in the Trendelenburg position; it is a slow operation, and I am wondering as to the degree of discomfort to the patient in that position for so long a time.

DR. C. A. THOMAS, Tucson, Ariz.: I am glad the doctor brought this paper; it is most instructive and I wish to thank him. I am glad we are getting fool-proof operations for cesarian section, because there are more fools doing cesarian section than any other operation I know of; men without the slightest experience will undertake to do the cesarian operation. It is too serious a thing for me to do lightly. At the larger clinics where the cases repeat, if the history shows temperature during the puerperium, they are slated for a repetition of their former operation; where they do not know, they take no chances, but take it for granted that the patient did have temperature before and is, therefore, more liable to rupture the uterus in the following operation. This paper gives us a new idea and a much safer operation.

DR. C. E. IRWIN, Miami, Ariz.: I should like to have Dr. Pierce compare the value of local infiltration as against spinal or sacral anesthesia in these cases.

DR. CHARLES S. VIVIAN, Phoenix, Ariz.: I should like to have it go on record at this time, that my associate, Dr. E. Payne Palmer of Phoenix, has performed three of these low cesarian sections and I presume he is the first to do it in Arizona.

DR. STERLING N. PIERCE, Los Angeles, (closing): In regard to the Trendelenburg position: some men put the patient right down, but it is not necessary, particularly in local anesthesia; it is a modified Trendelenburg. As to the anesthesia: the Germans work a lot under spinal. I reviewed thirty papers in French and German, and many of their operations were done under spinal. We have not attempted that in the Los Angeles General, because we got into the papers once or twice. We had one under spinal and the blood pressure fell way down, which the chief of the service said was due to the spinal. There are doubtless indications and places for it. Dr. Thomas spoke of desiring a fool-proof operation; this is nearly that in the hands of competent surgeons. Pollak's case mentioned was what led him to investigate this low cesarian operation. With regard to bladder tears: there were none in this series, but one of my associates in Los Angeles who works with me tore the bladder in one of his operations. If you get a bladder tear, sew it up; they get on all right. I wish to thank Dr. Vivian and members of the Association for this meeting and the privilege of appearing before you.

LUPUS VULGARIS

REPORT OF CASE ORIGINATING IN ARIZONA WITH PRESENTATION OF PATIENT

NELSON D. BRAYTON, M. D.
Miami, Arizona.

Read before the Thirty-sixth Annual Meeting of the Arizona State Medical Association, held in Yuma, Arizona, April 21 to 23, 1927.

Lupus vulgaris may be defined as a pathologic process destructive to the skin and mucous membranes, and which manifests itself in the production of cutaneous lesions which, by resorption, metamorphosis or ulceration, may be productive of atrophy, scarring or grave local injury, or, in some cases, be the point of origin of generalized tuberculosis.

Historically, it is one of the oldest and, when fully developed, one of the best recognized of skin afflictions. The literature of dermatology abounds in descriptions and pictures of this malady and a prominence far beyond its frequency (three cases in a thousand) is accorded it on account of the spectacular character of its multiform lesions, its obstinate chronicity, its rebelliousness to treatment, and its speculative etiology. It enmeshes in its history the name of every dermatologist from Hutchison of London, the all-time dramatist of skin diseases; from Kaposi of Vienna, who first exploited its manifold cutaneous explosions; from Unna of Hamburg, who next exploited its pathological manifestations, down to those of our present day scientists who are still attempting the establishment of its absolutely definite mechanical causation.

SYMPTOMATOLOGY

The most common site for the manifestation of this malady is the face, especially the region of the nose. Other surfaces may be invaded, either conjointly or independently. The disease generally begins with the development of several pin-head to small pea-sized deep seated brownish-red or yellowish macules (these may simulate in color and distribution lupus erythematosus), or the small discrete infiltrations of tubercles, which always have their origin in the corium and are softer and looser than normal tissue. Slowly and insidiously the disease progresses; new lesions appear at bordering or neighboring and dissociated parts. Thus a patch is formed composed of the crowded aggregated tubercles. These earlier nodules, or infiltrated points, having attained a certain size, generally the size of a small pea, they remain stationary for a time, at least, and then, sooner or later exhibit their retrogressive characteristics of resorption, disintegration, destruction, and ulceration with scarring, pigmentation or atrophy. The length of time required for this process varies. It requires more time than syphilis or carcinoma in its evolution, and, in more ways than one, resembles the metamorphosis of lepra anaesthetica. Its span of life may engage the attention of its owner for a quarter of a century and, in all that period, exhibit slight though constant activity.

Crust formation may occur within the boundaries of the formation and later, as the patch increases in size, cicatricial tissue forms in the center. The patches may spread by the appearance of new papules or tubercles at the peripheral portion and often by entirely new and dissociated islets lying entirely outside the borders.

In the completely developed cases of lupus, the ulcerative tendency is always observed. The involution of the lupoma is accompanied with typical apple-butter colored appearance in the more recent papules and tubercles; later, crusting occurs and the metamorphosis of the lupus patches furnishes scales, whitish, dirty, yellowish-brown, or glistening, and cicatrizing tissue. Ulcers, with pus formation, may occur and the accompanying tissue destruction be very considerable and disfiguring; even the loss of an ear or nose may occur.

So the disease continues, distinguishing itself with remarkable indolence and chronicity. Nodules may remain for months or years without increasing in size or undergoing regressive changes. Ultimately retrogressive changes do occur. When the patches are small and circumscribed, the prognosis is favorable. When they are extensive, they may be incurable. The prognosis depends upon the age of the patient, the resistance of the individual, the extent, form and duration of the disease.

PATHOLOGY

The pathologic histology of lupus vulgaris is, in the main, that of any infectious granulomata. The giant-cells, with their peripherally arranged nuclei, are ever present. They are found deep in the corium surrounded with epithelial cells and profusely mixed with small round cells enmeshed with enlarged capillaries and lymph-channels. These form the lupoid papule and, as it enlarges, it stretches the epithelium above and there supervenes the distinctive "apple-jelly" colorization and the characteristic nodule. No one feature of lupoid pathology is pathognomonic except the finding of the tubercle bacillus, always rare and laboriously difficult of discovery.

The next stage of the history of the lupus nodules is the degeneration of the new-

ly formed cells and their surrounding fibrous tissue. Center cells, being oldest, are first affected, their protoplasm becoming homogenous, and characterized by tinctorial changes (a lessened affinity for basic dyes) in the affected elements. The necrotic degeneration, on account of lessened toxic influence due to the very small numbers of tubercle bacilli, is a matter of slow progression. When the lesion finally reaches the epidermis and breaks through, secondary infection, generally staphylococcic, occurs with accompanying production of pus tissues, scales, scabs and crusts.

Further, depending upon the severity of these pathologic reactions, we have the different varieteis of the disease such as lupus sclerosus, lupus hypertrophicus, lupus verrucosus, lupus papilliomatosus, lupus exfoliativus, or lupus serpiginosus. Also, there may be a rare form of lupus vulgaris, sclerosus erythematoides, which closely resembles and simulates lupus erythematosus, and which the patient exhibited here today closely simulated in the early stage of her disease.

Mention should be made that, by some dermatologists, lupus has been considered a reflex dermatologic neurosis due to a toxin (probably tubercular) generated as the causative agent in some remote part of the body.

DIAGNOSIS

The diseases most apt to be confounded with lupus vulgaris are tubercular syphilis, lupus erythematosus, epithelioma and leprosy. The first-named disease may often closely simulate lupus. Its differentiation rests in the history of a rapid course of the disease; the concomitant signs of syphilis; the firm ulcers; the Wassermann and therapeutic tests. Epithelioma begins later in life and its ulcerative process is always attended with central ulceration which is surrounded with the hard, raised, pearly, waxy border. Lepra presents a more generalized eruption, usually with the anesthesias, and bacteriologic tests will show myriads of the leprae bacilli.

TREATMENT

Treatment is both general and local. A rational treatment would keep in view at all times a supervision of the patient's general health, together with local measures having as their objective the destruction or removal of the diseased tissue. Hygienic measures, such as nutritious diet, fresh air, exercise, and the ordinary anti-tubercular regimen, should be employed by the medical counselor. Tuberculin, tonics of cod-liver oil, or iron cacodylate, should engage the attention of the physician in the severe cases associated with active tubercular reactions. Locally, heliotheraphy should receive primary consideration. The application of direct sunlight is of primary importance. Not only should sunlight be used upon the diseased area but body baths should be given after the manner of Rollier of Switzerland, or as Watson and others of our Arizona profession are so admirably doing in Tucson, Prescott, Phoenix and Yuma.

In the absence of direct sunlight, the actinic therapy, first made prominent by Finsen of Denmark, should be employed. X-rays have failed to be of the service expected of them and radium is too disfiguring to be considered.

Scarification, galvanocautery and curetting are useful in their particular spheres of necessity but, like radium, are often disfiguring.

Among medicinal measures, the sheet-anchor is, of course, salicylic acid mixed with some caustic base such as pyrogallic acid, arsenious acid or chloride of zinc. Here, again, the desideratum is the destruction of the lupus tissue with as little resultant scarring as possible.

A brief history of the case herewith presented the Society will now be given:

Patient: Mrs. G. O., age 38 years, married, no children, native of Colorado and at all times has lived in western states. Has resided in Arizona for last seventeen years.

On May 10th of last year she noticed a small pimple and scale on left side of nose; a few days later a group of pimples with scales appeared on the opposite side of nose. From time to time, various blotches or groups of pimples of small size appeared on nose and contiguous areas of face. One group which appeared under outer angle of left eye has entirely disappeared. The primary appearance of lesions when first seen by writer in August suggested lupus erythematosus more than lupus vulgaris.

By December, characteristic papules of lupus vulgaris were more in evidence. In January, a diagnosis of lupus vulgaris was confirmed by Dr. T. T. Clohessy of Phoenix.

Pathological exclusion of syphilis as a possible diagnosis of her case has been made by the blood tests performed in laboratories both in Phoenix and in Los Angeles. X-ray pictures of her chest are positive as regards latent tuberculosis. She responds to tuberculin skin tests. She is negative as regards heart, liver, or kidney findings. She has a history of, and still has, recurrent appendiceal attacks, the last one occurring one year ago and being of severe character. Other physical findings are negative, including a miscroscopic examiation of tissue from the nodules.

Mild astringent therapeutic remedies were first used and found valueless. Heliotherapy was resorted to in September, direct sunlight being the agency employed. Under its use, patches of papules have come and gone and but little scarring has been left to mark their wake.

Aside from sunlight the patient now uses but one other therapeutic measure. Several times a day she applies gasoline to all lupid tissue. It may be of

interest to know that this use of gasoline is her own idea and it is cheerfully admitted by her physician that, in conjunction with the use of measured sunshine, it seems to be very efficacious in holding her lupus in subjection.

The following report of x-ray findings of her chest is furnished by the Pathological Laboratory of Phoenix and is added for the benefit of the record:

Reporting on the film of Mrs. O. brought to the laboratory today, this radiograph shows, on the right, moderate accentuation of hilus densities, some striation into the base and a slight irregular fibrous infiltration in the upper lobe, near the margin of the mediastinal shadow, but not extending to the periphery of the lung.

On the left, the hilus density is similar in character and extent, with slight fibrous striation at the first inter-space level and an area of more recent infiltration at the second interspace. This extends well to the periphery of the lung and may represent an active parenchymatous lesion.

DISCUSSION

DR. T. T. CLOHESSY, Phoenix, Ariz. (opening): I believe this case is an example of that very rare condition, or combination of conditions, designated by Leloir, of France, as lupus vulgaris sclerosus erythematoids, and by his fellow countryman Besnier, as lupus erythemato-tuberculeoux.

Now, Leloir evidently considered it as originating as an ordinary lupus vulgaris by the local implantation of tubercle bacilli, their growth and development, and the evolution of the resulting reactionary lesions into a sclerosed condition resembling lupus erythematosus, hence his qualifying words, "sclerosus erythematoides," added to lupus vulgaris.

Besnier, on the other hand, by his designation "erythemato-tuberculeux," showed that he considered we had actually the two processes present, a true lupus erythematosus and an added lupus vulgaris.

Now, if we accept the prevailing view of lupus erythematosus, that it is a toxic erythema, the provocative toxin acting on the skin being derived from some internal focus of infection, the nature of the focal infection varying but being in this particular case tuberculous, the absorbed toxin in this case could produce the lupus erythematosus, and a later hematogenous infection from the same tuberculous focus could give the added bacillary growth producing the lupus vulgaris, it being universally admitted that lupus vulgaris is the result of the local growth of tubercule bacilli. Or the reverse could be true; the first process could be the lupus vulgaris, with a later added lupus erythematosus.

Thus could rationally be explained the presence of these two conditions, as in this case. It certainly looked like lupus erythematosus until one noticed the inflammatory papules on the outskirts of the larger erythematosus lesion, which most assuredly never form a part of uncomplicated lupus erythematosus pathology, and which papules on closer inspection proved to be lupus vulgaris papules, the miliary tubercles showing through the diascope as the often mentioned and described apple-butter colored patches.

In order to thoroughly appreciate a lupus vulgaris or tuberculosis verrucosa lesion, or group of lesions, one should be able to visualize the unit or essential lesion, to trace its various phases of evolution as an uncomplicated lesion and as affected by secondary factors, such, for instance, as an added pyogenic factor resulting in ulceration. The irritation produced by the prsence of tubercle bacilli brings about a new growth of tubercular tissue within the skin, which may remain for a long time as a papule, a nodule, or a more or less level area.

This tuberculous tissue may find its way to the surface and may be thrown off in a more or less dry condition—exfoliated, as it is called.

It may be affected by fatty degeneration, be absorbed and result in scar tissue without previous ulceration, or it may gradually slough off as part of an ulcerating process. Or the lesions may accumulate in the skin, in their various stages of evolution and involution, and present a combination of any or all these processes, a very complicated picture resulting.

A thorough understanding of the pathology and possibilities of evolution and involution of the one unit lesion is the key to an understanding of the multifarious appearances that may be presented by lupus vulgaris and tuberculosis verrucosa cutis.

DR. VICTOR RANDOLPH, Phoenix, Ariz.: Wish to emphasize one point mentioned by Dr. Clohessy, and that is the probable existence in these cases of some focus of infection elsewhere; that is important to remember, especially in young subjects. Have a woman patient, 36 years old, who had lupus in childhood; it cleared up at that time and about four years ago she had a recurrence, diagnosis being made by Dr. Sutton. Condition cleared up again. No attention was paid, in her childhood, to the possibility of pulmonary infection. At the present time she has advanced bilateral pulmonary tuberculosis; skin condition has disappeared. I believe that, if sufficient attention had been paid in her childhood to the possibility of a focus elsewhere, she might have avoided the condition she is now in.

DR. W. W. WATKINS, Phoenix, Ariz.: With regard to the use of radiation in treatment of lupus: where the patches are small and superficial, we usually prefer to use radium. We can control the superficial effects of radium more easily than we can those of x-ray, and the amount of scarring resulting will not be due to the radium but to the healing of the lesion itself. We have treated several cases of lupus with radium, with very satisfactory healing and cosmetic results. Where the lupus is extensive and involves the whole thickness of the skin, radium is not advised, as the scarring effects will be considerable; in such cases, if radiation is to be used at all, it should be by x-ray.

DR. N. D. BRAYTON, Miami, Ariz. (closing): I wish to thank Dr. Clohessy for his classical discussion of this case; also for the care and attention he has given to the patient. In regard to Dr. Randolph's statements: physical examination and x-ray of the patient here have already demonstrated things that we little suspected and that will be watched in the future. Am glad to hear Dr. Watkins say that the effects of radium can be controlled with good cosmetic results.

Wish to voice the appreciation of the association to the patient for her graciousness in appearing before us.

Koch Cancer Foundation. On September, 22 and 23, according to an announcement just issued, the second annual convention of the Koch Cancer Foundation will take place in Chicago, one of the meetings being a joint session with the American Association for Medico-Physical Research. The American Association for Medico-Physical Research was organized in 1911 by the outstanding quack of the century, Albert Abrams. It is stated that some three hundred physicians will gather to discuss the use of the Koch remedy in cancer. But one meeting is to be a joint meeting with the distinguished members of the American Association for Medico-Physical Research. The Koch representatives should add tone to this remarkable assemblage. (Jour. A. M. A., July 23, 1927, p. 296).

BUNIONS: DIFFERENT TYPES, DIFFERENT TREATMENT

MAYNARD C. HARDING, M. D., F. A. C. S.,
San Diego, California

Read before the Thirty-Sixth Annual Meeting of the Arizona State Medical Association, held in Yuma, Arizona, April 21 to 23, 1927.

The whole subject of bunions is still in much dispute among surgeons and no paper will call forth more acrimonious discussion before an orthopedic body than one heralding the long expected, but often postponed, perfect operation. This can be well illustrated by a personal observation in the Section of Orthopedic Surgery of the American Medical Association meeting at San Francisco in 1915. A splendid paper on halux valgus had been torn to shreds by a discussion lasting long past the allotted time, when in walked Dr. John Ridlon, now the dean of American orthopedists. In his well known manner he strode to the front of the room saying as he walked:

"Gentlemen, I have not had the pleasure of hearing the paper, nor the advantage of hearing the discussion, but I wish to put myself on record as disagreeing with everything that has been said here on the subject."

One other statement was made at the time which is worth repeating. Someone, I do not know who, stated that, as a general practitioner over a period of thirty years, he had noted that most bunions were hereditary. His remarks were greeted with considerable laughter, but it happens that that was probably the first announcement of what is now recognized to be the truth.

It appears to me that the reason for this sharp divergence of opinion lies in the fact that we are still lumping as cases of halux valgus at least four distinct entities, which should be approached from as many different operative angles. Of course not every case is of a pure type, but each has its outstanding characteristics which determine its correct treatment.

Let us consider them in detail:

The first is a true halux valgus. Its characteristics are (1) a normal postion of the matatarsal bones, particularly the first; (2) an exostosis on the inner, or mesial, side of the first metatarsal; (3) this is usually overlaid by a bursa subject to periodic inflammation from pressure or friction and covered by a corn—this last being Nature's effort to provide a protection to the tender bone underneath; (4) the great toe is deflected outward but not usually more than forty-five degrees; (5) the toe has no or little rotation. This type is exceedingly common in middle aged adults, and may never cause a symptom unless inflamed by a poorly fitting shoe.

The second type is, strictly speaking, not a halux valgus but a metatarsum varum, a name given, I believe, by Dr. Truslow of Brooklyn. This is the hereditary type. It is characterized by a marked inward divergence of the first metatarsal bone from the second, causing a separation of the two. This foot approaches the type of a hand with its off-set thumb, and is the normal in many barefoot races. If such a person never wore shoes he would have widely separated first and second toes. There is the same exostosis, bursa, and corn as in the other type. The toe is deflected outward, often making nearly a right angle with its metatarsal, and is apt to be rotated so the inner border is down. The important thing about this type is the condition and position of the sesamoids. These little bones, which are normally the size of a split pea, lie in the tendons of the short flexor muscles, and play in two grooves on the under side of the head of the first matatarsal within the joint. Their upper free surfaces are covered with synovial membrane. They are, of course, analagous to the patella. In the type of bunion under discussion they are displaced toward the outer border of the foot. The mesial sesamoid then occupies the groove of the outer, while the outer lies between the first and second metatarsal heads. After this condition has lasted some time and spells of inflammation have occurred, one or both of the bones hypertrophy, while the outer one often becomes adherent to the metatarsal bone. When this attachment takes place, a condition of partial halux rigidus is produced, which is usually painful. The toe is then held constantly in deformity and cannot be manually corrected. This one-sided check-ligament action, pulling always on the under border of the base of the great toe, I believe to be the principal cause of the rotation noted above. This type nearly always shows depression of the second, third and forth metatarsal heads with calluses.

The third type is halux valgus with osteoarthritis. The arthritis may develop in either of the foregoing types, or the deformity and arthritis may develop together. Rigidity is apt to be marked by extreme pain, and other joints of the foot are affected. Bony outgrowths are a feature.

The fourth type is halux rigidus. This is not usually classed as a bunion, but it is so closely allied in pathology that it really belongs in the discussion. This rigidity, as stated, may be due to adherent sesa-

moids, or to ostec-arthritic exostoses blocking joint motion. It is often due to trauma. Destruction of the joint surface is another cause. The condition is very painful because of the great strain brought to bear on the toe in propelling the body. The important thing is the position of the toe. Since we all wear heels—men, three-fourths to one inch and women, one and five-eighths to three inches—the toe must be able to extend at least forty-five degrees above the straight position to enable us to stand with comfort.

If the foregoing pathology be granted as reasonably correct, the question of treatment will at once divide itself into corresponding groups. Only a small percentage of bunions need operation. If it is possible to make the patient comfortable by proper shoes, corrective devices or measures to eliminate inflammation, surgery should not be considered. But if relief cannot thus be secured, or cosmetic reasons are important, operation may be advised. Inability to get shoes to fit the badly deformed foot is also a proper indication.

Perusal of the recent works on orthopedic surgery reveals a number of standard operations, apparently advised indiscriminately for all types alike. The principal ones are (1) excision of the exostosis and a slice of the head with or without tenotomy of the extensor tendon, (2) cuneiform osteotomy of the shaft of the metatarsal bone, (3) osteotomy of the base of the metatarsal to close the gap between the first and second metatarsal bones, (4) excision of the whole metatarsal head and interposition of the bursa—the Mayo operation, (5) removal of the sesamoids, (6) removal of the base of the great toe, (7) special plastic operations of Silver, Truslow and others.

Let us take each type separately and see what is the very least we can do to relieve the symptoms, for it is a surgical axiom to do the least possible surgery to achieve the desired result.

Type one, true halux valgus. The indications are to remove a painful bursa and exostosis, and to restore somewhat the alignment of the great toe. A clean diagonal excision of the exostosis, including enough of the articular surface to give a cosmetic narrowing of the forefoot, with dissection of the bursa, if thickened, is usually enough. Care should be taken to remove any exostosis lying on the dorsum, and to see that the toe corrects easily. The toe should be held in full correction by a plaster spica around the foot and toe. This can be slipped off like a mitten and is worn at night for several months.

The second type, metatarsum varum. The indications are: removal of the painful exostosis and bursa, correction of the valgus and rotation of the great toe, and narrowing of the foot. The exostosis and bursa are treated as before, perhaps more radically. The sesamoid bones, by their displacement and especially if adherent, are the principal bar to reduction. They should be removed through the same incision, made in this case convexity down. This is not easy, but is facilitated by a short bladed knife, a small chisel curved on the flat, and a strong hook. These once removed, the toe usually corrects easily, but may need a small cut in the external side of the capsule. It is true that correction may be secured by freeing the sesamoids without removal, but the greatly hypertrophied sesamoids cannot be made to stay in their old grooves, and their tendency is to find lodgment again between the metatarsal heads. The toe is over-corrected with special care to correct and control the rotation. It is put in plaster in extreme abduction and plantar flexion, to restore at once its lost power of propulsion. The patient wolks on his heels in two days and naturally in two weeks. The plaster mitten should be worn at night as before, and a matatarsal pad is almost always indicated. It is in this type that the mutilating osteotomies, head excisions, and like extensive operations are most frequently done. They simply are not necessary.

The third type, osteo-arthritis. Beware of them. Do not operate if any inflammation is present. Treat the arthritis first. When ready for operation be guided by the state of the joint surface. If it is found normal, proceed as in the two foregoing types, removing the exostoses with clean cuts well up onto the shaft beyond the inflamed area. If the joint surface is rough, and especially if rigidus is present, remove a half inch from the base of the first phalanx of the great toe—the Kellar operation. Dress this toe in abduction and dorsal extension, as a flare-up may cause stiffening.

The last type, halux rigidus, is quite similar. With a normal joint surface remove the spurs which cause stiffening. If the synovia is doubtful, do the Kellar operation. Dress in dorsal extension. This position is the important thing, as even a rigid toe may be painless if well cocked up.

The treatments outlined here have proven satisfactory and applicable to the majority of cases. They are simple of execution, and fairly standard in technic. No natural supporting structure is removed, while attack is confined to pathologic tissue. I commend

to you a more careful differential diagnosis in your bunion cases.

DISCUSSION

DR. R. D. KENNEDY, Globe, Ariz. (opening): The subject has been so completely and conservatively covered, that there is little I can say in addition. I agree with everything that the essayist has said. There is a frequent mistake made by men who are not seeing many of these cases; where there is a slight bunion and these sesamoids are fairly prominent, with dropping of the metatarsal heads, resulting in metatarsalgia, the mistake may be made of thinking the pain is due to the sesamoids, and some men will undertake the operation of removing the sesamoids to relieve the pain, and they do the patients no good; as a matter of fact, they are usually much worse. The line of treatment outlined is conservative and I cannot add anything to it.

DR. D. F. HARBRIDGE, Phoenix, Ariz.: Would like to ask whether these conditions are more prevalent in the female than in the male, aside from the congenital type, and, if so, can the wearing of high shoes influence the development of enlarged joints of the toe?

DR. ALFRED E. GALLANT, Los Angeles, Calif.: Dr. Harding's paper is very interesting, because the problem of bunion operation is one that will easily give a man a black eye if he has bad results. I have seen a number of cases of the Mayo operation and the patients had painful feet afterwards, some of them lasting more than a year; this procedure should be completely eradicated from the list of operations. I have seen a number of cases that illustrate the hereditary tendency in these cases. Another thing, in cutting off the head of the bone, infection frequently occurs, the only reason for which is that there are bugs in the skin and when the ends of the bones are cut off they are allowed to get in and develop. The after-treatment is important. If you have a toe that sticks up and you try to put that toe in a shoe, you will have trouble. As suggested, abduction and plantar fixation is the best method, because, when the foot is removed from the bandage, it will fall into normal position.

DR. M. C. HARDING, San Diego, Calif. (closing): With regard to the occurrence in women as compared to men; there are three or four in women to one in men, the reason being the type of shoe. Do not think the shoe was the cause in this case, but, on the whole, the constant driving down will tend to spread that portion of the foot and increase any natural tendency to bunion. The short shoe does not cause bunion, but it can act as one of the causative factors. In the case where the heads of the bones were cut off, there is an osteo-arthritis; patient did not have bunion, but had hallux valgus; in the x-ray you will see large branching exostoses clear across to the sesamoids; a month or two after the operation, she still had bunion toe. There is nothing to do in that case except to take off the whole head again. Such a case should not be operated; medical treatment should be used and, later, take off enough of the toe to get rid of the deformity. The Mayo operation in that case would cripple the woman for life.

BRITTLE BONES AND BLUE SCLERA

ELLIOTT G. COLBY, M. D.,
San Diego, California

(Read before the Thirty-sixth Annual Meeting of the Arizona State Medical Association, held in Yuma, Arizona, April 21 to 23, 1927.)

During the past few months I have had under my care a family, three of whom have brittle bones associated with blue sclera and one of whom has blue sclera but no fractures. In a review of the literature I have found the condition rare enough and the nomenclature so confused and involved that I thought the cases of sufficient interest to present.

In the literature I found the term fragilitas ossium applied to many and all conditions where there is a tendency to frequent broken bones.

The condition of frequent broken bones may be congenital or acquired, it may be due to developmental defects or may be of the type we see in the aged or insane, and in chronic wasting diseases where there is a general absorption of the mineral constituents normally found in bone. It is the idiopathic type of bone fragility which I am particularly interested in discussing and these cases fall under one of three conditions.

1. Osteogenesis imperfecta, first described by Vrolik in 1849. Here we have defective development of the cranium and frequent broken bones. It is a disease of the foetus and fractures are often found at birth which may have united with large callus formation. If the child does not die in early life the bones tend to become less brittle and fractures less frequent. This condition is not known to be hereditary.

2. Osteopsathyrosis, first described by Lobstein in 1833. In this condition there are many idiopathic fractures in young adults following slight trauma. It is held by many men that this disease is but a delayed manifestation of osteogenesis imperfecta, but in all probability this is not the case. It occurs in children and young adults who were apparently normal at birth. It is similar in many respects, pathologically, to the third condition which I am to describe but it is not associated with blue sclera and is not hereditary.

3. The syndrome of brittle bones and blue sclera. It is this type of fragilitas ossium which I wish to describe in more detail, and I will review the history of the disease and its dominant characteristics.

Many of those who have the blue sclera show also frequent broken bones, hereditary deafness and hypermobility of the joints. Blue sclera was first described by Von Ammon in 1839. In 1896 Spurway first called attention to the relation of brittle bones and blue sclera and reported a family of fourteen persons, ten of whom had multiple fractures. The next report was by Eddowes in 1900 and credit for the first recognition of brittle bones and blue sclera has been, for some reason, universally given to him. Since 1896 there have been about twenty-one family trees reported which

show the association of brittle bones and blue sclera. These were all summarized by Key in 1926. In this series of twenty-one families, there were 477 individuals; of these, 241 had blue sclera and of those having blue sclera, 146 had fractures and fifty-six were deaf to more or less extent. The condition is transmitted only by affected parents to their children and, in Key's summary, was found to be more often transmitted by females than males. Children with normal sclera born of affected parents, will have normal children and those born with white sclera never suffer from brittle bones. Deafness occurs in later life and was not described as a part of the syndrome until 1917. Deafness has been thought to be due to an abnormal deposit of calcium salts in the ear. Key describes the syndrome as hereditary hypoplasia of the mesenchyme, as he found a hypoplasia of all mesenchymal tissue in his case. In the bones the lamellae were irregular in arrangement. There were many large canals in the compact bone and the tendo achilis was found pink and translucent and reduced in diameter. In the eye there is an abnormal transparency of the sclera with probable decrease in its thickness, which permits the blue area to shine through, thus giving the peculiar blue appearance.

The fractures in these cases are not spontaneous, as a rule, but occur as the result of trauma which would seldom fracture a normal bone. The fractures probably occur more easily on account of the irregular lamellae and canals found in the cortex of the bone, and, if the condition is a true hypoplasia of the mesenchyme, there is probably an abnormality in the fibrous matrix of the bone.

The calcium and phosphorus content of both blood and bone has been, in most cases, reported normal.

REPORT OF CASE

A girl 5 years old was brought in for x-ray of a broken leg. This was her ninth fracture of a long bone. The father is living and well, has blue sclera and has four fractures of the upper extremities. He is also deaf. Hhe has four brothers and sisters, two of whom have blue sclera and the baby, 16 months old, had a fracture of the humerus when the mother lifted it from the bath tub.

I was able to obtain the history of the family for four generations, in all, 32 members. Of these, ten have had blue sclera and seven of these had one or more fractures, and four have been deaf. The paternal great grandfather reports ten fractures of the long bones, had blue sclera and is deaf.

The patient was a normal full-term baby, breast fed, and has had no severe illness.

Present Illness: At 16 months she had a greensick fracture of left tibia when pulling herself up to a chair. At 18 months, a fractured femur from falling off the bed; at 20 months, a greenstick fracture of right wrist when playing on floor, cause not known; at 3 years and 4 months, one bone in right forearm just below elbow, from fall on frozen ground; at 3 years and 6 months, same bone broken over from fall of 18 inches. The other bone in forearm was accidentally broken when doctor was setting fracture. At 3 years and 9 months, right forearm was broken again in fall from tricycle. At 5 years and 4 months, both bones in left leg broken just above ankle when sliding down slide at school. It was for this fracture that I first saw her when she was brought in for x-ray examination. The fractures were not associated with a great amount of pain and tended to heal readily.

Physical Examination: A girl of 5 years, height 3 ft. 7 in.; head, normal in contour; ears appear normal; nose, negative; teeth, good condition—one front incisor missing and one is loose. Tonsils hypertrophied and infected. Eyes, pupils regular and react normally; slight embryotoxin present; sclera a china blue in color; intra-ocular tension seems normal.

Glands show no adenopathy; chest is flat and ribs prominent, no rosary present, lungs are normal; expansion good; pulse, 80; no abnormal heart sounds; abdomen, normal; reflexes, normal.

Extremities: hyperextension marked, fingers can easily be bent back at right angles. Upper extremities: no deformities, all motions normal limits; lower extremities; left ankle turns in and a brace is necessary. She is able to bear weight but walks with limp.

Blood: Wassermann, negative; red count, 3,340,000; white count, 12,800; hbg., 70 per cent. Differential count shows polys. 47 per cent, small mono, 33 per cent, large mono. 13 per cent, tran. 3 per cent eosino. 2 per cent. Calcium content of blood: one examinaion, t5.4 mg. per 100 c. c. blood. This is not conclusive.

TREATMENT

No satisfactory reports of treatment are to be found in the literature. After adolescence is passed, fractures tend to become less frequent.

All trauma which might cause fractures should be avoided. Cod liver oil and phosphorus may help. Thyroid preparations have been tried with no success. The prolonged use of splints should be avoided.

Ferri of Naples reported no fractures in a case of congenital brittle bones following a series of quartz light treatments. In my case, a series of twelve quartz light exposures was given over a period of six weeks, and this is to be repeated. This was also given to her affected brother and sister. It is hoped that this will reduce the tendency to frequent breaks, but time alone will tell.

SUMMARY

1. Of the three types of idiopathic bone fragility, there is only one which is known to be hereditary.

2. This is the syndrome of brittle bones, blue sclera, deafness and hypermobility of the joints.

3. The condition is inherited directly from an affected parent and no generations are skipped. Children not affected do not transmit it to their children.

4. It is due to a congenital hyperplasia of the mesenchyme.

5. Little is known of treatment—usual therapeutic measures have been of no avail.

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DISCUSSION

DR. R. D. KENNEDY, Globe, Ariz. (opening): The cases exhibited under the title of brittle bones and blue sclera are evidently a distinct clinical entity. I have never had a case under my personal observation. A short review of the literature does not show any condition of the bones so far as I have been able to learn, associated with blue sclera. This is evidently some disturbance of the calcium metabolism of the patient.

I am glad to have seen these patients and have enjoyed the paper very much.

DR. D. F. HARBRIDGE, Phoenix, Ariz.: It is an interesting fact that so few of these defects are transmitted through the male, but usually through the female. In this particular situation, we have one male child and one female; it would be interesting to observe later in life as to this feature of transmission. No doubt the condition of the sclera is due to thinning of that tissue. I took opportunity to test the tension of both eyes and the sclerae feel much thinner than you would expect to find in a person of his age.

DR. GEO. E. SHIELDS, Yuma, Ariz. (closing): I should like to have had some one suggest a correct terminology for this condition. Except that I circumcised one of the boys, Dr. Colby treated these patients, otherwise, and I do not know anything more about it.

THE TREATMENT OF GENERAL AND LOCAL INFECTIONS WITH MERCUROCHROME INTRAVENOUSLY

W. C. CAIN, M. D.
Yuma, Arizona.

Read before the Thirty-Sixth Annual Meeting of the Arizona State Medical Association, held in Yuma, Arizona, April 21 to 23, 1927.

There are now thousands of case reports on record in the literature attesting the efficacy of mercurochrome 220 soluble given intravenously in the treatment of general and local infections. Young[2], in one paper, analyzes 680 cases from authentic case records, in which cure or permanent improvement is shown in 63 per cent. In 196 cases, reported by Braasch and Bumpus[3], treated in one year at the Mayo Clinic, in which benefit was shown in acute and sub-acute infections, with less in chronic affections, there was one death which may have been caused from toxemia. They, therefore, advise caution in the use of this treatment.

Dudgeon[5], in the London Lancet, reports 150 cases treated with satisfactory results. He reports daily injections for five days without observing any injurious effect. He believes hemolysis with protein shock may account for a part of the good effect. This has been refuted by Young with a report of a large number of cases showing cure or permanent improvement, in which there was no notable shock. In my own experience I have not noticed anything more than a remote resemblance to non-specific protein therapy. After the initial chill and fever, I have observed that the patient at once appears better and whatever improvement there may be is usually permanent.

In a series of twelve cases of pneumonia in children, reported by Freeman and Hoppe[4], there were two deaths, in neither of which was there any cause to suspect the remedy. They think highly of its use and undertake to explain its action with the theory that, after leaving the blood stream by osmosis, it exerts its beneficial effect. Dogs were injected with mercurochrome; one hour later they were killed, the lungs removed and their tissue juices were squeezed out. One drop of the tissue juice was mixed with a standard loopful each of staphylococci and streptococci. Smears were made and incubated for 24 hours. Controls showed luxuriant growth, but the bacterial suspension of tissue fluids showed only a few scattered colonies. They conclude that the tissue fluids of the lungs after injection with mercurochrome are inhibitory to the growth of bacteria.

The writer, in consultation with Dr. J. D. Forrest, saw a case of pneumonia in a

child which improved in a most striking manner after one injection of mercurochrome intravenously. This was a case of acute septic sore throat with marked glandular involvement. After a prostrating illness of one week's duration there developed a double acute otitis media. After drainage had been established by incision of both drums, there developed consolidation of the left lung with acute fibrinous pleurisy and a pericardial friction rub; 10 c. c. of one per cent mercurochrome was given intravenously with complete abatement of all the symptoms within a few hours.

There are many able clinicians and laboratory investigators who do not find mercurochrome of value when used intravenously. Major John E. Walker[5], in a recent article, has shown that staphylococci and streptococci grow better in blood containing 1:25,000 mercurochrome than in normal blood, and that, by increasing the strength of the mercurochrome up to 1:400 for staphylococci and 1:800 for streptococci, they can be made to grow still more luxuriantly. He states that mercurochrome is hemolytic when added to washed red blood cells suspended in salt solution. His experiments indicate "that even in the presence of serum mercurochrome is much more toxic for red blood cells than it is for bacteria." He further states that he is unable to agree with Hill[6], who has shown a bacteriostatic action of blood following the injection of mercurochrome, or with Piper[7], who has shown that streptococci were killed in a dilution of 1:8,000 in defibrinated blood. Redewill and Potter[8], working at the University of California, found that, with the diphenyl carbizide test, it was possible to foretell the type of reaction in each patient. Later these same investigators proved that by giving glucose with the mercurochrome it was possible to prevent the violent reactions.

The number of case histories already published in which there is a vast amount of repetition, makes the reading of case histories at this time unnecessary. In a series of twenty-eight cases there have been two deaths. Both were cases of septicemia, and, following any standard of treatment, their lives would have been despaired of. The cases in which there was prompt cure included pyelitis, acute rheumatic fever, lobar pneumonia, acute septic sore throat, acute prostatitis, epididymitis, acute pyogenic skin affections and erysipelas. Cases that have shown only improvement are acute, subacute and chronic gonorrheal urethritis. In nearly all cases mercurochrome was used only after failure with standard treatment.

CONCLUSIONS.

It would seem that there is now ample evidence to support the theory that mercurochrome intravenously has an inhibitory effect on bacteria in the blood and body tissues, and, in some cases, may act as a bactericide. However, it is a potent agent, capable of doing harm and should be used with caution.

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DISCUSSION

DR. R. D. STROUD, Tempe, Ariz. (opening: I wish I could be as enthusiastic about mercurochrome as I was before using it. I wish I could say a lot of good things about it. There are many good things said about it in Dr. Young's article in the Archives of Surgery for January, 1926, where he has described in detail six hundred cases, with sixty-three per cent of cures. On analysis of these cases, you will find many like this: a doctor way out in the sticks has a patient who has been confined, with labor lasting twenty-four or thirty-six hours. Seventy-two hours later she has a chill and fever and is pretty sick. She is given a dose of mercurochrome and the next morning she is well. There are just thousands of these cases in which you give nothing, or ten grains of quinine, and they also get well, because they do not have septicemia. You will find many such unproven cases in the report. Many such cases are suffering from protein shock from blood absorption.

I have found mercurochrome of great benefit, especially on gonorrheal ophthalmia, of which I see much among the Indians and Mexicans; a two per cent solution in the eye every half hour will control that infection better than protargol or argyrol.

I have had a series of head cases with streptococcic or staphylococcic infection, six of the first and one of the latter. Five of these were treated with mercurochrome, a full dose being given each day for five days; did not observe bad effects, there being a distinct chill from fifteen minutes to half an hour after injection. In none of these was there improvement from the mercurochrome. Four of them were given blood transfusion after the mercurorchrome had been tried, with good results in three; it seemed as if there was enough antibody in the donor's serum to stop the progress of the infection. These seven cases were proven to be septicema. In pyelitis, and in many of the minor infections, I have had good results, though I have had a little better effect from milk or non-specific protein—a few minims into the vein or deep gluteal injections.

Mercurochrome has practically supplanted iodine in small wounds, especially in children, as it is non-irritating.

I cannot see how twenty-five c. c. of a one per cent solution, which is the average dose, put into the whole volume of blood can sterilize that blood. For many years we have been looking for something to sterilize the blood infected with cocci; I do not believe we have found it in mercurochrome. I agree with the English writer who thinks it is a protein shock from dissolving red corpuscles. Dr. Young does not think the effect is due to this, but he does not try to explain the effect; something goes into the blood, reaction occurs and frequently the patients get well. However, I cannot report that any of mine got well under mercurochrome.

DR. M. C. HARDING, San Diego, Calif.: I was real enthusiastic over mercurochrome at one time, but in our community it is not being used intravenously except at the Naval Hospital. They use it quite a little and think their results are good, but they are not checked so that they can be reported definitely and scientifically.

DR. CHARLES S. VIVIAN, Phoenix, Ariz.: I wish to say what I have said before, that you must not treat pyelitis by drugs by mouth or intravenously if you have obstruction in the ureter. There are two factors in pyelitis, one is infection and the other is back pressure on the kidney. You must relieve both, and you cannot relieve a block in the ureter by mercurochrome in the vein.

DR. W. C. CAIN, Yuma, Ariz. (closing): I have treated two cases of pyelitis; in one the diagnosis was made on the clinical symptoms after operation. Urotropin had been given by mouth and intravenously for several days; was also given resorcinol. The fever continued high, around 104. After one injection of thirty c. c. of mercurochrome, the fever and other symptoms cleared up within twenty-four hours; when I saw her the next day the look on her face told me she was better. The fever has not returned during two years. The second case also followed an operation, and the fever cleared up the same way. The other case I do not claim to have been septicemia except from clinical observation; but there was an infection with a long continued fever, with every indication of an early fatal outcome; after mercurochrome, the symptoms, fever and other evidences of diseases all cleared up within twenty-four hours. The results I have seen are more than I have observed from protein shock or other treatment.

THE SELECTION OF A PRESIDENT OF THE UNIVERSITY

(By WILLIAM V. WHITMORE, A.M.,M.D.)
(Treasurer, 1914-17—Chancellor, 1917-18)

Personal Experience

In 1897, when I was appointed to a two-year term as Regent of the University of Arizona, the resignation of the president had been accepted one week earlier.

In May, 1914, at the first meeting of my four-year term, the resignation of the president was accepted. So, in each case, the first problem we had to face was the selection of a president. In 1914, the majority of the members of the board were to be out of the state much of the summer. Consequently the committee on canvass for a president consisted—Hobson's choice—of the poor preacher and the poor doctor, who could not afford a vacation.

The committee had its work well in hand, and at the first possible meeting made its recommendation to the board. The regents, after a thorough consideration of the qualifications of several candidates promptly and unanimously endorsed our recommendation. Dr. Von KleinSmid—at no time an applicant—was invited to visit us and at that visit was offered the position, which he accepted and filled for nearly eight years.

Conditions in 1914

There were a few more than 200 regularly enrolled students. Good work was being done, but, unfortunately, nobody knew it. Practically all of the high school teachers of the state—wherever born—were educated outside of Arizona and knew very little of the work of the University. Quite natural, then, that some well-known institution east or west should be seriously considered and usually selected. The University was not getting the patronage from our own people that it deserved.

A careful consideration of this situation convinced the committee that the most important thing to be kept in mind by the regents in the selection of a president was the necessity of making the institution known to the people of the state.

Qualifications in 1914

We finally centered upon four points or qualifications that we felt were essential in a president at that time:

1. A pleasing personality—a man who would attract rather than repel.
2. A "mixer"—in the best sense of the word.
3. A good speaker. We felt that this would prove a good advertisement for the University.
4. A young man. We concluded that such a man would be more contented in this small institution and would give greater promise of a long term of service.

What shall we now say of these qualifications that seemed so important 12 years ago? My advice is, in the words of the poet, "Forget it." While, of course, a pleasing personality and some ability as a "mixer" are valuable to a man in any walk of life; and, while the president should be able to state clearly what he wishes to say, yet the University has means of making itself known to the people of Arizona other than by an occasional visit of the president. The University now has some 1,000 matriculates—not all are graduates—residing in 80 cities, towns and communities in Arizona. Practically every high school has one or several graduates in its corps of teachers and nearly every community has several matriculates engaged in various lines of activity. The people of Arizona know of its University, even if they should not see the president from one year's end to another.

At my last visit to my own Alma Mater, in 1920, that college, founded 56 years before, was just inaugurating its third president. But that is in staid New England. As far as the University of Arizona is concerned, my honest opinion is that any president, worth his salt, would in 10 years—more or less—accept promotion to a wider field of usefulness. Consequently there is no need of planning for more than that length of time.

Preset Situation

From the year 1910 to 1920 the population of Arizona increased over 63%—exceeding all other states. During the first half of the present decade the reports show more than 30% increase. These additional people mean more high schools, larger classes and more young people seeking the advantages of the University. My understanding is that the percentage of increase in regularly enrolled students from 206 (1914) to 1260 (1922)—these dates representing Dr. Von KleinSmid's incumbency—is practically unprecendented in any university or college in the country.

Fifty-three high schools in Arizona, some 42 other states and nine foreign countries now contribute to the enrollment. Some of us have seen, with our own eyes, the institution grow from one to 23 buildings; a faculty of eight increase to some 130 and an enrollment of nine regular students mount to 1615. In fact, our graduating class each year now equals the number of students regularly enrolled 12 years ago.

The professional rating of the University may be learned from a Bulletin of the Bureau of Education. The concluding paragraph of a Report of a Survey of the University, made in the spring of 1922—before Dr. Marvin had ever seen the campus—sums up the growth of the institution. The final sentence is as follows:

> "The people of Arizona must realize that their institution is no longer a high school of early years, nor even the simple college of 20 years ago, but that it is a real state university, comparing favorably in scope with the higher educational systems of most of the other states of the Union."

This hardly bears out the frequently encountered propaganda that, at that date, the institution was a fourth-class one. The facts are that somewhere about 1917 the University was rated "Class B—with Restrictions." The restrictions, which were due to lack of equipment in the Electrical and Mechanical Departments, were, a little later, removed and the institution became "Class B." The history of its promotion to "Class A" will be of interest to the people of Arizona. For several years this promotion was blocked by Dr. Kendric C. Babcock—former president of the University of Arizona, now Provost of the University of Illinois—who was chariman of the committee passing upon such matters, because he could not believe that the one-horse institution, over which he had presided for seven years, could have sufficiently developed to justify such recognition. After a comparatively recent visit here, he could not sign on the dotted line quick enough. (Dr. Babcock inspected all the University—except the youthful president, who happened to be out of the city that day).

A President—Why?

Most colleges and universities seek for this position an educator—a man to direct and supervise the work of the faculty. Some institutions emphasize the word "organizer" or "administrator." A few institutions, with vast holdings, feel the need of a "financial wizard."

Most students—particularly those who are seeking a general education rather than professional training—will find, in after life, that the most valuable thing they can carry away from the university is not learning nor yet intellectual development but rather an appreciation of, and interest in the finer things of life—its higher values. True education has for its object the cultivation of the noblest aspects of human life. It should not be thought of as a means solely as an introduction or a preparation to a career. It should be something that permanently enhances the sanctities of personal experience, a truly cultural process, broadening the outlook on life, making deeper the significance of living, and affording permanent satisfactions.

> "To make the mind a pleasant
> Place to spend one's leisure—
> That is the art of life."

All educational institutions should see that every influence—the "academic atmosphere"—is always elevating and ennobling.. In my opinion, it is just as much the duty of the president to see that, both by precept and example, every line of activity of the institution be on a high, ethical plane as it is to see that the head of the Department of Mathematics be efficient or that the funds be properly expended. The university has a responsibility along this line, to the students who seek its doors. It will devolve upon the president to see that this responsibility is fully met.

A President—How?

Regardless of the number of applications, a cursory perusal of them will undoubtedly reveal some half dozen more prominent than the others. And a more careful consideration of this small number will presumably result in their being graded—1, 2, 3, etc. Of course, the further investigation by the regents of those who arouse interest may assume quite a broad and quite a varied scope with the different candidates.

I doubt if any board ever has the easy time of selecting a president that we had in 1914. We received invaluable assistance from Bishop Edwin Holt Hughes—former president of De Pauw—who had the reputation of having placed more college and university presidents than any man in the country. Upon the request of the committee to suggest a candidate, he wired the name of Dr. Von KleinSmid. There were three other reasons:

1. As it happened, this first name presented to us stood, throughout the canvass, head and shoulders above the other 32 candidates.
2. By a peculiar coincidence, his sponsors touched upon the identical points that we had already agreed upon.
3. We had a pretty definite idea of what we wanted, we were not "shopping."

Quite different was the experience of the board of 1922. According to the newspapers, for some eight months they had candidates galore in conference. I have never learned whether the candidates did not suit the regents or the regents did not suit the candidates.

A President—What?

I believe that every one will agree in the necessity of certain general qualifications, such as:

A broad view. An observation of over three score years has convinced me that the really big man talks less of himself and his achievements; insists less upon deference and homage from others; and, at the same time, exercises more consideration to associates and subordinates; while the small man is never able to see beyond the limits of his narrow vision.

A man of recognized ability—not necessarily, in my judgment, of national reputation—but of such

outstanding ability as to command at once the respect and loyalty of every member of the faculty.

No man in Arizona will require greater discretion, tact and diplomacy than the president of the university and this fact should be duly considered.

Those personal attributes, which everybody expects the holder of such a position to possess, such as: unquestioned veracity, innate honesty, absolute integrity and a high moral character—a fit exemplar for every student who may come under his influence.

If I had anything to do with the selection of a president, there are certain other qualities, of which I would want to be sure—even if it meant a personal communication with several of the sponsors of the leading candidates.

First—The president of any organization should be, above all, a man of decision—with backbone. He should be able to say "yes" or "no" and stay with it—till convinced of error. The presidency of a university is no place for a "wishy washy" man. (On the other hand, it is no place for an egotistical, opinionated or dictatorial person). To my personal knowledge this lack of decision has, years ago, led to needless complications.

Second—While I would not demand literal "popularity" in the candidate, yet I would insist that he have, at least, ordinary ability in getting along with others. Some dozen of years ago, there was a man connected, for a few years, with the Agricultural department. He was thoroughly competent, but just could not get along with people. Later he was selected as president of an agricultural college in a neighboring state and I inquired of a former regent of that institution about our friend—hoping he had learned discretion. I was told that he had not been in his new position one month before he had a big row with his board of regents and, quite naturally, remained there only the one year. So our regents should labor earnestly to secure a man, with whom they, at least, will be able to get along.

Third—No candidate, although he might be rated 100% in the foregoing qualities, would ever receive my unqualified approval, unless I had positive assurance that he was SANE. In this word I include those various meanings often expressed by such terms as: good sense, correct judgment, safe, sound, rational, balance and poise. This is much more important than mere brilliancy. No man, who has not a sane and wholesome outlook upon life, should ever be placed at the head of an institution for young people. The president must be a man of discrimination—able to differentiate the essential from the non-essential; the important from the unimportant; the permanent from the temporary.

To recapitulate—The president should be a man of absolute integrity and intrinsic worth; of broad, scholarly and sympathetic culture; an educator and organizer; a harmonizer and diplomat; a man of sound judgment and effective forcefulness; with broad vision and high ideals; with personality and inspiration—an intellectual and moral leader.

A President—Who?

Just who this man may be—Smith, Jones or Brown; from what institution or section of the country he may come; by whom recommended or discovered; the particular brand of his political, religious, social or economic convictions—all these are insignificant compared to the man himself. Who? Any man the regents may be able to secure, who possesses these—or equally good—qualifications.

The last two sentences may well be qualified. The farther the president comes from Arizona and the less he knows of the University, the better for all concerned. He should be absolutely unbiased—a man with whom every member of the faculty may start with a clean slate; and with whom the latter's retention and promotion will depend upon future efficiency and loyalty.

Other things being equal, I would prefer a man who had already had successful experience in that position. As long as the institution was very small, it was natural that inexperienced presidents should be selected. But with the present size and development, I believe that former experience would prove more valuable. Such a man would undoubtedly have had occasion to solve 75% of the problems that ordinarily arise in such a position. These could be disposed of almost with the snap of the finger and his time and energy could be conserved for the consideration of the more important problems—either new or indigenous to this section. In my judgment the University of Arizona is no longer under any necessity of training its presidents.

Compliment Board of Regents

The present board of regents is to be complimented upon the excellent judgment it exhibited in the choice of Dean Cummings as Acting-President. No more conscientious, worthy and capable man could have been selected from the entire faculty by any regents. The unanimous action was simply ideal.

The sensible, broad-view and business-like attitude with which the regents entered upon their work—for the hold-overs are rather new to actual authority—is most commendable, the new members showing an intelligent grasp of the requirements of the University hardly to be expected from such recent appointments. Without exception the members of the board had only one thought and one aim, viz. the welfare of the University. All demonstrated to the people of the state their fitness for the position.

The perfect harmony and unanimity of the regents—after years of schism—and the outspoken satisfaction of the selection of the acting-president by faculty, students and the thoughtful people of the state—this wholly unexpected happy situation—quite arouses in some of us hopes that the Arizona Star and Tucson Citizen, the venerable David Starr Jordan and especially, the ill-mannered Harold Bell Wright—these vociferous friends (?) of the University—may now cease their frenzied rantings and give evidence of returning sanity. If everybody will get loyally behind the University it is more than likely that not the expected number of years will be required for it to regain its usefulness to the youth of the state and its standing as an educational institution throughout the country.

TRUTH ABOUT MEDICINES

NEW AND NON-OFFICIAL REMEDIES

Crotalus Antitoxin. An antitoxic serum prepared by immunizing animals against the venom of snakes of the crotalus family. Evidence has accumulated to show that the venom of certain snakes may be neutralized by the employment of a serum obtained from animals that have been injected with venom from a snake of the same family. Crotalus antitoxin is used to neutralize the venom injected by the bite of members of the crotalus family. The serum is administered intramuscularly, subcutaneously and in certain cases it may be administered intravenously.

Antivenin (Nearctic Crotalidae). North American Anti-Snake-Bite Serum. An anti-toxic serum prepared by injecting horses with venoms from serpents of the North American species of the family Crotalidae (Rattle Snake, 75 per cent; Copperhead, 12½ per cent; and Water Moccasin, 12½ per cent). It is claimed to have neutralizing effect against the venom of the species represented. The serum is

marketed in syringes containing 10 c.c. (a single dose). H. K. Mulford Co., Philadelphia. (Jour. A. M. A., July 2, 1927, p. 29).

Erysipelas Streptococcus Antitoxin (Lederle) Unconcentrated. An erysipelas streptococcus antitoxin (New and Nonofficial Remedies, 1927, p. 337) prepared by immunizing horses by subcutaneous injections of the toxic filtrate obtained from broth cultures of the erysipelas streptococcus, or by intravenous injection of cultures of the erysipelas streptococcus obtained from typical cases of erysipelas. It is administered in early cases of moderate severity in dosage of 12c.c. intramuscularly; in severely toxic and late cases, 36 to 48 c.c. intramuscularly, or 24 c.c. to 36 c.c. intravenously. This product is marketed in syringes containing 12 cc. Lederle Antitoxin Laboratories, New York. (Jour. A. M. A., July 30, 1927, p. 373).

PROPAGANDA FOR REFORM

Disgusting Medical Advertising. The medical profession is now being circularized with an illustration advertising presumably "Proveinase-Midy." The circular shows a disproportionate naked Hercules and a depressed naked female, whom the Hercules seems about to energize with "Proveinase." The name Midy has meant little that is inspiring to the American medical profession. Santal-Midy is sandal oil capsules that have been exploited largely by way of posters in public toilets. The advertising of "Proveinase" merits contempt and resentment. (Jour. A. M. A., July 2, 1927, p. 32).

Plasmochin. The Council on Pharmacy and Chemistry issues a preliminary report on "Plasmochin," a synthetic quinoline derivative, developed in Germany and proposed for use in the treatment of malaria. For many years attempts have been made to find a substitute for quinine that would be cheaper, less bitter, less toxic and more specific than quinine. Plasmochin appears to be a step forward in this search, though it is not a full solution of the problem of eradicating malaria. It is said to act by destroying some of the forms of the malarial parasite and by inhibiting the development of others. Those who have studied the drug appear to agree that the new drug is most effective on the quartan forms of malarial parasite, that in tertian malaria a combination of the new drug is sixty times more effective than equine. The Council points out that results derived from the study of bird malaria have chiefly a suggestive value, and that further clinical study must be made before any optimistic estimate of its value in human beings can be formed. The Winthrop Chemical Co. has imported the drug for clinical trial and this is labelled to be "ethylaminoquinoline tannate." The firm states that the product when placed on the market in this country will be manufactured here. The Council has postponed further consideration of Plasmochin until clinical evidence concerning the efficacy, safety, and dosage of the product is available. (Jour. A.M.A., July 9, 1927, p. 113).

Limitations of Goiter Prophylaxis. Government authorities believe that there is no reason for special goiter prevention measures on the part of the state and local health departments. They do not see any necessity for universal prophylaxis such as may be attained by iodization of table salt or municipal water supplies. There is a growing opinion that the administration of iodine as a means of preventing goiter should be under the guidance of physicians and should be individualistic. In this way much good may be accomplished. (Jour. A. M. A., July 9, 1927, p. 114).

Vaccination of the New-born Against Tuberculosis With Bacillus Calmette Guerin. The history of the vaccination of new-born infants against tuberculosis with Bacillus Calmette Guerin (abbreviated B. C. G.) since July 1, 1924, in France and other countries over a period of two and one-half years to Jan 1, 1927, has just been reviewed by Professor Calmette with his co-workers Guerin, Negre and A. Boquet at Pasteur Institute in Paris. The vaccine is a living tubercle bacillus of bovine origin rendered avirulent for all animals by 230 passages on bovine bile medium. For the preparation of the vaccine, the B C G organism is transferred from the bile medium to a synthetic medium, cultured, and an emulsion of bacilli prepared. 2 c.c. of the finished preparation constitutes a dose to be fed to an infant in milk. Three doses are given. A total of 43,283 children have been thus vaccinated. The various papers which are reviewed may be said to represent the culmination of the life work of a revered scientist. They may open a new era in the eradication of tuberculosis and in the knowledge of its epidemiology. For the United States, however, and for all countries it would seem wise to hold in check uncontrolled enthusiasm for its use until those charged with the responsibility of safeguarding the public have carefully proved that the method and the premises are sound. (Jour. A. M. A., July 9, 1927, p. 115).

Cactina Pillets Again. Twenty years ago preparations of *Cactus grandiflorus* — the Mexican night-blooming cereus—had considerable vogue, chiefly because of the extravagant advertising claims made for two preparations said to be derived from it —"Cactin" and "Cactina." In 1908, Sollmann thus ironically described the claims made for these preparations: "Should the heart be too slow, cactus quickens it; if the heart is too fast, cactus slows it; should the heart be too weak, cactus strengthens it; if the heart is too strong, cactus weakens it; does the heart wobble, cactus steadies it; if the heart is normal, cactus does not meddle with it." Subsequently a number of reports were published showing pharmacologically and clinically that preparations of cactus were inert. As a result of the thorough exposure of the worthlessness of cactus preparations, proprietary houses have generally abandoned their exploitation. While "Cactin" (now called "Cactoid") is still offered for sale and is still the "joker" in a proprietary morphine-scopolamine preparation, no claims for it are advanced. In the case of "Cactina Pillets," however, the proprietor—the Sultan Drug Co.—still finds it profitable to continue advertising in a certain class of so-called medical journals and to continue making the claims that have been so thoroughly disproved. To those who give credence to these advertising claims, a recent clinical study will be of interest; it reaches the conclusion that Cactina Pillets are no more than a placebo, thus agreeing with Sollmann, who twenty years ago called the preparation a psychic cardiac tonic. (Jour. A. M. A., July 9, 1927, p. 138).

Two Obesity Fakes Dodge Fraud Orders. The Post Office Department called on the Hall Chemical company, which sells the obesity preparation, Hall's Tablets Triturates—to show cause why a fraud order should not be issued against it. The proprietor of the company submitted an affidavit declaring that the sale through the mails of Hall's Tablets Triturates had been abandoned. Similarly the firm which exploits "Slends," a chewing gum coated with a mixture containing sugar and phenolphthalein, when asked why a fraud order should not be issued for selling Slends through the mails submitted an affidavit declaring that the business of selling Slends through the mails had been discontinued. There is of course, nothing in the action of either firm to prevent the sale of the products in question through the drug stores. (Jour. A.M.A., July 9, 1927, p. 138).

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The Southwestern Meeting In November

The meeting of the Medical and Surgical Association of the Southwest in El Paso, the first week in November, will be the greatest meeting ever held in the southwest district, barring none. Unique in its inception, it will present a clinical congress lasting four full days. Under the presidency of Dr. Waite, and through the indefatigable labors of Dr. Hugh Crouse, chairman of the program committee, a clinical congress and post-graduate course have been provided, to be presented by authorities in their various lines.

Papers are not being solicited from members of the Association for this meeting. The entire time will be given up to clinical instruction by authorities, any one of whom will be worth the trip to El Paso to hear. There will be the usual clinics held by the local society in the early forenoon of each day. Beginning at ten o'clock, the clinical discussion and instruction by the teachers secured for that purpose will start and continue with only luncheon intermission until five or six o'clock. The evenings will be devoted to public lectures, and such other functions as the local society may provide. The entire program will be given in next month's (September) issue of SOUTHWESTERN MEDICINE, with complete information about the lecturers, teachers and subjects to be handled. Among the men who have been definitely secured for this meeting are the following:

Dr. Frederick Allen, of New York, who will give clinical lectures on diabetes and hypertension. His work on these conditions stamps him as one of the leading authorities in the world on these subjects.

Dr. Charles Aaron, of Detroit, will lecture and give clinical talks on gastro-intestinal tract diseases.

Dr. Rudloph Matas, of New Orleans, professor of surgery at Tulane University and president of the American College of Surgeons, is expected, and will handle general surgical subjects.

Dr. William H. Park, Chief of the Bureau of Laboratories of New York, will talk on New York's experience in vaccination against diphtheria, scarlet fever and measles.

Dr. George A. Wyeth, of New York, will lecture on neoplastic diseases and the use of the radio knife and electro-thermic methods in malignancy.

Dr. Grant Eben Ward, of Baltimore, a member of the Kelly Hospital staff, will present the subject of radium in malignancy.

Dr. Harry S. Crossen, of St. Louis, will present the subject of surgery in uterine malignancy.

Senior Surgeon John McMullen, of the United States Public Health Service, will give a public talk on one evening on "Civic Righteousness and Sanitation" covering the insect transmission of disease. He is being sent especially by Surgeon General Cummins, for this meeting.

Dr. Drew Luten, of St. Louis, will discuss Instruments of Precision in Cardiac Diagnosis, making up a portion of a whole day devoted to study of heart disease, which will include Dr. Allen on Hypertension.

The full details of the program have not been worked out. The above covers only

about one-half of the number of lecturers and teachers who will give this course of instruction.

Portions of the program which have not yet been filled, but which will be completed soon include clinical lecturers on surgery of the chest; local anesthesia; general diagnosis; clinical tuberculosis; x-ray in chest diseases; x-ray in gastro-intestinal diseases; other possible subjects in the final program.

The tentative plan includes a full day devoted to study of cardiac and vascular conditions; a second day covering tuberculosis; a third day devoted to gastro-intestinal diseases; the fourth day will be given up to study of malignancy. Each of these subjects will be discussed, with clinical demonstrations, by four or five lecturers. The subjects will then be open for questions to develop points not brought out in the lectures.

Watch our next issue for full details and complete program.

A. GARFIELD SCHNABEL
(Tucson, Ariz.)

In the sudden death of Dr. A. G. Schnabel, of Tucson, on August 10, the medical profession of Pima County and of Arizona have suffered a real loss. Dr. Schnabel was forty-seven years of age, and had been located in Tucson since 1906. He graduated that year from the Cleveland Homeopathic Medical College, afterwards the Cleveland-Pulte Medical College. For a number of years he has been city health officer for Tucson and for the past four years has represented the homeopathic school on the Board of Medical Examiners.

Resolutions of respect were passed by the Pima County Medical Society at a special meeting held August 11th. The resolution praised the work of Dr. Schnabel during the twenty years he practiced in Tucson and cited his brilliant record as a medical student. It follows in full:

"The members of the Pima County Medical Society were shocked by the sudden and untimely death of their fellow member, Dr. Arthur G. Schnabel, who died Sunday night, August 7, 1927. Four months ago this society mourned the loss of its secretary and now it loses its vice president.

"Dr. Schnabel made a brilliant record as a medical student. He practiced in Tucson more than 20 years, being the second oldest physician in residence here. During this time he maintained the reputation of being an able and self-sacrificing physician. He was an enthusiast in his chosen work—rich and poor were equally the beneficiaries of his professional skill. In his specialty, obstetrics, he was very successful, enjoying a large and loyal clientele. In this line of work his reputation was more than local.

"Dr. Schnabel rendered the community and the county most valuable services as a member of the local exemption board during the war. He was untiring in his work and his board received high praise from the army authorities.

"For several years he was a member of the State Board of Medical Examiners, holding this position up to the time of his death.

"During the six years that he was city health officer he had the confidence and co-operation of the medical profession of Tucson. All his endeavors in improvement in sanitation had the support of his colleagues.

"In the early part of this year he was elected president of the staff of St. Mary's hospital.

"This community will long feel the loss of this popular and efficient public official.

W. W. WHITMORE,
ALVIN KIRMSE,
E. J. GOTTHELF,
Committee."

MALCOLM MONTGOMERY CROCKER
(Lordsburg, N. M.)

Another veteran practitioner of New Mexico passed from the stage of medical activity in the southwest, in the death of Dr. M. M. Crocker of Lordsburg, on May 17th. Dr. Crocker was born in 1864, and was sixty-three years of age at the time of his death. He was a graduate of Rush Medical College, Chicago, class of 1887, and had practiced in New Mexico since 1895. He was a member of the New Mexico Medical Society, of the Medical and Surgical Association of the Southwest. He was county health officer of Hidalgo County, and member of the staffs of the Lordsburg and De Moss hospitals. He was a veteran of the World War. The cause of death was perforated duodenal ulcer.

JOSEPH MONROE RICHMOND
(El Paso)

In the death of Dr. J. M. Richmond, the El Paso Society has lost one of its most valued members. His death occurred on August 8th, autopsy showing the cause of death to be coronary embolism. The obituary was received too late for publication this month, but will appear in the September issue.

JAMES ROBERT DAVIS
(Silver City, N. M.)

Dr. James R. Davis, a member of the Medical and Surgical Association of the Southwest, died at Silver City, N. M., on July 15. Dr. Davis was born in 1884 and was forty-two years of age at the time of his death. He was a graduate of Northwestern Medical School, Chicago, class of 1912, and was licensed to practice in New Mexico the following year. He served during the World War, and his untimely death is a distinct loss to the profession of that community.

SAMUEL CLIFFORD COX
(Fort Bayard, N. M.)

Dr. Samuel C. Cox, of Fort Bayard, N. M., a member of the staff of the Veterans Bureau Hospital, died on July 9, of heart disease. Dr. Cox was born in 1867, and was fifty-nine years of age. He was a graduate of George Washington University Medical School, Washington, class of 1892. He was a veteran of the Spanish-American and World wars. Prior to his service in the hospital at Fort Bayard, he was a member of the staff of U. S. Veterans Bureau Hospital No. 41, at New Haven, Conn.

DISEASE PREVENTION IN NEW MEXICO.

This journal has been criticized for making unfavorable comparisons between the public health activities in New Mexico and those in Arizona. It may be that the educational and publicity activities in New Mexico keep this office better informed about their work, but it has appeared, and still appears, to us that the chief difference is the organization of a public health bureau under a full time officer, with a sufficient number of full time county health officers to accomplish what is necessary in conserving the public health. Another example is the work of Dr. N. D. Frazin, full time health officer of Grant County, in suppressing an outbreak of rabies in that county. Dr. Frazin is a full-time health officer; he does not have to scratch anybody's back, nor stop to see what will be the effect of his activities on his private practice if he should hurt somebody's feelings. In his disease prevention work he hews to the line and lets the chips fall where they may. Under no other system can there be efficiency. The Weekly Bulletin of the Public Health Bureau says:

Prompt action on the part of Dr. Frazin, Grant County Health Officer, has suppressed what threatened to be a dangerous outbreak of rabies at Santa Rita. Every dog in the town is now wearing a muzzle and a tag showing that it is vaccinated against the disease. The muzzle was an additional safeguard, since an unknown number had been bitten before vaccination was begun. A large number of ownerless strays have been relieved of their earthly miseries.

When last heard from, Dr. Frazin was heading for Tyrone to hold a dog-vaccination party. All pets were to be brought to the plaza and treated at one time. Those that did not appear were to be disposed of.

This is a good piece of preventive work for which Dr. Frazin has earned the gratitude of Grant County citizens.

"Since some question has been raised as to the powers of the County Health Officer to declare quarantines in epidemics and enforce whatever regulations he may deem necessary for the public health, Dr. N. D. Frazin has secured from District Attorney W. B. Walton an opinion under the existing state statutes, as to his authority in placing a quarantine in Grant County on all dogs as a result of the recent outbreak of rabies. Dog owners should accordingly take heed: inasmuch as failure to obey the regulations put into effect will result in prosecution in the courts." (Silver City Independent.)

GRANT COUNTY (N. M.) MEDICAL SOCIETY

The regular monthly meeting of the Grant County Medical Society was held June 24, 1927, in the Officers' Club, Fort Bayard, N. M. The Vice-President, Dr. Frazin, called the meeting to order at 8:20 p. m. in the absence of Dr. Kramer, President.

The minutes of the previous meeting were read and approved without change. Those present were: Drs. Farnsworth, Browne, Parmeter, Lacy, Donahue, Frazin, Cox, Davis, Pollak and Wood.

Clinical cases were then called for by the acting president, Dr. Frazin. Dr. Davis presented patient Sandoval. He complained of constipation alternating with diarrhea and vomiting after taking food. Plates of G. I. series were exhibited which showed filling defects of the cecum, ascending and transverse colon.

The second case was that of patient Fortner. This patient was found to have an ulceration of the cecum when appendectomy was performed last November. Plates of G. I. series were exhibited and showed filling defects from ulceration of the cecum. These patients were examined and their cases discussed by Drs. Farnsworth, Pollak, Cox and Lacy.

Dr. Wood presented patient Hammond, who is suffering from tuberculosis of both kidneys and probably of the bladder. Points of interest in the evolution and diagnosis of this case were read from the patient's chart. Patient Hammond has no tuberculosis in any other parts of his body so far as is known. Drs. Pollak, Cox and Frazin discussed the case.

Owing to the lateness of the hour, Dr. Lacy's paper on "Tuberculous Lesions of the Upper Respiratory Tract" was postponed until the next meeting.

Dr. Frazin announced that the regular meetings of the Society would not be held during the months of July and August.

The meeting adjourned at 10 p. m.

J. P. WOOD, Sec. & Treas.

EL PASO CITY-COUNTY STAFF MEETING.

At a meeting of the staff of the El Paso City-County Hospital April 20, the following cases were reported:

DR. BARRETT: The patient, a baby, began having severe coughing and fever seventeen days before admission. Three days before admission the cough became worse and convulsive seizures began. The neck became semirigid, the baby developed a moan, and there were strabismus, pharyngeal congestion, and dyspnea. There were moist rales and marked vocal fremitus over both lungs. The heart was rapid; there were no murmurs. The abdomen was distended. Cervical glands were enlarged. Reflexes were exaggerated. The rectal temperature was 104, the hemoglobin 70 per cent, the white blood count 19,500. The working diagnosis was bronchopneumonia and meningitis. Attempt at spinal puncture was unsuccessful. Since fluid could not be obtained for

confirmation of the diagnosis of meningitis, the diagnosis was changed to bronchopneumonia with meningismus. The patient died.

Dr. Richmond said that he would consider this pneumonia with pneumococcic meningitis.

DR. RICHMOND: A woman, aged 35, with enlarged, tender abdomen, full of fluid and irregular masses. No rigidity of abdomen. The patient had a cough, was emaciated. Temperature 100, pulse 108, respiration 24. There was bilateral cervical adenitis. There were increased fremitus and dullness on percussion over both lungs. There was a yellow vaginal discharge, and polyuria. The swelling of the abdomen began two months before, at which time there was pain low down on both sides. Heart negative. Tentative diagnosis: tuberculous peritonitis. The abdomen was tapped, and much straw-colored fluid obtained, after which the condition became worse. The abdomen was opened under local anesthesia. The peritoneum was very thick and bled profusely. The intestines were matted to the abdominal wall. Drain was inserted and the wound closed. The patient vomited several days before death. At the time of operation carcinoma was suspected. Section, however, showed round cell infiltration and scar tissue. The final diagnosis was tuberculous peritonitis.

DR. VARNER: Woman, aged 33, eight months pregnant, bleeding on admission. Fetal heart sounds were heard during labor, but baby was born dead. Diagnosis: placenta praevia.

DR. BARRETT: A child was admitted with abdominal rigidity, more marked on the right side, tenderness over McBurney's point, and temperature of 101.8. On the third day there were signs of pneumonia: rales in the upper left lobe, and after a few days in the right base. Breath sounds were impaired over both lungs. X-ray examination confirmed these findings. There was some abdominal resistance and a tumor above the cecum the size of an egg. Dr. Cummins saw her in consultation and at the time of his examination he could not find the tumor. Widal test was positive. Von Pirquet test negative. White blood count 17,500. The temperature continues high, and at present goes to 102-103. The chest at present is about clear. Dr. Barrett thinks there is an impacted cecum. The mass gets smaller at times. Drs. Stevenson, Gambrell, and Armistead thought the mass very likely tuberculous.

DR. STEVENSON: A girl, aged 12, with a history of sexual relations with step-brother, was admitted with a diagnosis of pregnancy and chronic appendicitis. Four months later the patient was readmitted with the same diagnosis. The pelvic mass was larger, the temperature was 101.3, the white blood count 29,000, with 84 per cent polys. All signs of appendicitis were present. Menses had never begun. At operation the appendix was found to be large and bathed in pus. It was removed and a drain inserted. Pathologic report was acute and chronic appendicitis. The wound daained well, the abdomen became flat, and the mass disappeared. There was no pregnancy. There was possibly an ovarian abscess or an abscess in the culdesac.

L. M. SMITH, Sec'y.

The staff of the El Paso City-County Hospital met May 18, 1927, at the hospital, Dr. G. Werley, vice-chairman, presiding. The members present were: Drs. G. Werley, F. O. Barrett, F. P. Miller, Hugh Shannon, E. D. Strong, R. A. Wilson, M. E. Stevenson, L. A. Neil, W. R. Jamieson, Paul Gallagher, J. H. Gambrell, E. B. Thompson, T. J. McCamant, J. M. Richmond, Paul Rigney, F. M. Barnes, E. J. Cummins and L. M. Smith.

DR. THOMPSON reported a typical case of gonorrheal arthritis with a history of painful and frequent urination and urethral discharge. There was involvement of the toes and hip. The patient developed pneumonia while in the hospital, but soon recovered.

DR. THOMPSON also reported briefly several deaths which had occurred on his service during the month.

DR. WERLEY reported the case of a man, aged 52, with a history of receiving antiluetic treatment at the clinic in 1926. He had pain and shortness of breath which came on suddenly. No murmurs were heard. Blood pressure 154/80. There were signs of fluid at the right base, and after several attempts a considerable quantity of fluid was obtained. X-ray showed increased diameter of the heart. The patient died. Autopsy was not performed.

DR. WERLEY also discussed briefly the death of a patient who had a working diagnosis of mitral stenosis, this diagnosis being questioned by Dr. Werley.

DR. MILLER discussed the death of a man, 55, who was struck by an automobile. The patient was found in shock with three broken ribs. Died in 24 hours. Autopsy showed a subdural hemorrhage, but no brain damage.

DR. JAMIESON reported the case of a man who was admitted with inability to urinate, and extreme pain on the attempt. Had had pain and frequency for 10 years. The prostate was markedly hypertrophied, and there was bilateral inguinal adenitis. Blood urea 270 mgms. per 100 c. c. A permanent catheter was inserted. Cystoscopy showed a large prostate with a malignant appearance. Diagnosis: Probably carcinoma of prostate. A suprapubic cystotomy was performed, and a retention catheter inserted. The blood urea dropped 42 mgms., and the prostate was then removed. The patient died. Final diagnosis: carcinoma of prostate.

DR. JAMIESON also reported a second case of carcinoma of the prostate with fatal termination. This patient had had painful and frequent urination for two weeks, and no urination at all for three days. The bladder was palpable above the pubis. Prostate large. Blood urea 40 mgms. The prostate was removed, leaving a very hard capsule of infiltration about the cavity. Died eleven days after the operation. Section of the prostate showed carcinoma. Thrombi were found in the heart at autopsy.

DR. RIGNEY discussed the case of a man who fell on a step and fractured the left femur below the greater trochanter. An anesthetic was given, and extension apparatus and cast applied. Ulcers developed all over the leg at points of pressure. The patient died. Autopsy showed consolidation of the right lower lobe of the lung. Diagnosis: pneumonia.

DR. RIGNEY also discussed briefly several other fatalities occurring on his service during the month.

DR. MILLER, for Dr. Hugh White, presented the record of a case of cardiac decompensation with a gangrenous leg, which was amputated.

DR. RICHMOND discussed the case of a woman with a history of pain preceding menstruation,

profuse discharge, and bleeding from the cervix. The cervix presented a cauliflower appearance, bathed in a foul discharge. Tender over the pelvis. There was swelling of the left leg. Radium was applied. The patient passed grape-like masses. Diagnosis: chorionic epithelioma. Death ensued eleven days after admission.

DR. McCAMANT and DR. ARONSON presented brief records of cases which died in the hospital during April.

DR. SHANNON reported the case of a man with acute retention of urine for five days, and a history of painful urination for six months. He had not defecated for five days. Prostate was enlarged. The diagnosis was prostatic hypertrophy. Retention catheter was inserted. The patient developed signs of appendicitis, was operated, and a subacute appendicitis with many adhesions was found.

DR. SMITH reported a case of pellagra with diarrhea, typical pellagrous dermatitis, stomatitis, and advanced symptoms. The patient was put on a high protein diet and brewers' yeast. After two months of this treatment all symptoms had disappeared, and the patient was discharged and told to report at intervals for observation.

DR. RICHMOND advocated drainage thru the culdesac in cases of pelvic abscess, in addition to abdominal drainage. He stated that better results were obtained in this way. He also emphasized the advantage of removing the fundus of the uterus as well as the tubes in pus-tube cases; cases recover more quickly.

DR. GAMBRELL agreed with Dr. Richmond that fundectomy is advantageous in these cases and effects a better drainage.

DR. MILLER stated that the mortality is much lower in pelvic abscess if culdesac drainage is done before the abdominal operation, especially in acute cases.

L. M. SMITH, Sec'y.

ARIZONA DEACONESS HOSPITAL
(Phoenix)
May 23, 1927.

The regular meeting of the Staff of the Arizona Deaconess Hospital was held May 23, 1927, at 8 p. m.

In the absence of the chairman of the records committee, the secretary reported upon the deaths for March and April, as follows:

Case No. 453.—Tumor of the hypophysis and hemorrhage into the fourth ventricle; came to the hospital in a terminal condition and died a few hours later. The case was autopsied; the diagnosis seems to have been made at autopsy.

Case No. 543.—Bronchial pneumonia; admitted March 22, and died on the 27th. There were very good records on this patient, as she had been in the hospital several times before.

Case No. 459.—Tuberculosis of the bladder; previously reported at staff meeting.

Case No 744.—A six months old baby with acute gastroenteritis, secondary to an upper respiratory tract infection. This case was reported in detail in this staff meeting.

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Case No. 734.—Female, age 29. Admitted April 19 and died on the 23rd, with chronic nephritis and mitral regurgitation. Has a very fair history.

Case No. 602.—Entered the hospital April 1st and died on the 2nd, with diagnosis of anhydremia. There is a good record.

Case No. 705.—A baby five months of age with an incomplete chart. Diagnosis not recorded by the attending physician, and he has given no history or examination records of the case. The consultants left a fair record, however, to the effect that the case was an acute diarrhea, with secondary meningitis.

Case No. 533—Female, age 25, with pulmonary tuberculosis, chronic nephritis and uremia. She was brought to the hospital in a terminal condition and died within three days. The records are good.

Case No. 455.—Male, age 43. Operated for acute gangrenous appendix. The patient had been ill two weeks before he was brought to the hospital. The operation was done, though there was slight chance of recovery. Records are good.

Case No. 725.—Female, age 33, who died from puerperal eclampsia, five days after admission to the hospital. The records are inadequate.

Case No. 640.—An immature baby; died a few hours after admission.

Case No. 402.—Male, 76 years of age, died of strangulated inguinal hernia, which was reduced on two occasions. The patient suffered considerable shock and death followed two days after admission.

Case No. 647.—Male, 47 years of age, who died of acute nephritis, one day after admission. Records are fair.

Case No. 463.—Female, age 31, who died of peritonitis, probably from septic abortion. There is no history nor records of examination by the physician.

Case No. 703.—Male, age 28, who died of acute dilatation of the heart, nine days after admission. Records are good.

Case No. 542.—Male, age 72, who died of hypertension and apoplexy, sixteen days after admission. Records are good.

Case No. 306.—Female, age 26, who died of pulmonary tuberculosis and chronic nephritis, 21 days after admission. Records are good.

Case No. 420.—Female, 40 years of age, who died of uremia following pregnancy. Records are chiefly by the interne, and are good.

Case No. 967.—Male, 27 years of age, who died of pulmonary tuberculosis, about three months after admission to the hospital. Records are good.

The main part of the program consisted of the presentation of a group of pediatric cases, all of which had been in the hospital in the past few weeks.

Case No. 712.—Presented by DR. CARSON. This was a baby nine months of age, admitted on April 18. The history says that it was a badly dehydrated baby, which had been vomiting and having many liquid bowel movements for days. The baby had previously been well except for an infected ear. The child was given intraperitoneal blood, and salt solution, and put on a low fat and high protein diet. It made an uneventful recovery and was dismissed as well, on May 10.

Case No. 820.—Presented by DR. FOURNIER. Patient was a baby boy, eight months of age; chief complaint was cough, high temperature, and loose bowels. Entered the hospital on May 4th, after about ten days illness. Previous to this illness the child had had a cold for about one week. This commenced as a rhinitis but gradually extended downwards until it invaded his lungs. There was considerable coughing and temperature. The child was very fretful and restless. He had been having frequent green watery stools.

Physical Examination—The child was lying in bed in a semi-conscious state. It was fairly well nourished but pale. The respirations were rapid and there was considerable cough. Head negative, tongue coated, no teeth. The tonsils were slightly injected. The abdomen was scaphoid. The liver could be felt below costal margin. Spleen and kidneys not palpable. Pulse, rapid and regular. Heart showed no adventitious sounds. Chest was barrel shaped and seemed to expand freely and evenly on both sides. The breathing was bronchial in character, and rales could be heard over the entire lungs. Percussion was negative. Urine was negative. Skin was dry and loose and showed evidence of loss of subcutaneous fat. Bones and joints were negative. Hemoglobin 76%; Leukocytes 25,400; large lymphocytes 16%; polynuclears 84%. Diagnosis was bronchial pneumonia.

Child was put to breast every three hours. It was given a cool sponge bath every three hours while temperature was high. Fluids were forced and it was given proctoclysis of three per cent glucose, fifteen drops to the minute. One c. c. of pneumococcus immunogen was given every 24 hours.

Case No. 705.—In the absence of Dr. Shupe, presented by the secretary. The records are incomplete; there is no history, nor examination

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records by the attending physician, and the first page is unsigned. This was a baby five months of age, admitted to the hospital on the 16th of April, with the diagnosis of epidemic diarrhea. The buttocks were excoriated. The leukocyte count was 17,400. The Wassermann was negative. The baby was seen by six doctors; the general conclusion was that the baby developed meningitis or encephalitis which was secondary to the intestinal infection. Before death the baby had repeated convulsions. Temperature 105½ at death.

Case No. 744.—Presented by DR. CHARVOZ. This was a baby six months of age. It had been bottle fed with cow's milk, diluted with water and malted milk, scalded before giving to the child. Two weeks prior to entrance to the hospital would cry out suddenly as if in pain. Temperature rose to 104. There is no examination record. Red cells nearly 5,000,000; leukocytes 21,200 with 40% lymphocytes and 60% polynuclears. The progress notes say that the baby had a temperature of 104, slow respiration, and the stools were green in color. The baby was discharged two weeks after admission, greatly improved. This case seems to be one of the epidemic which is so persistent here in Phoenix, and in which the prominent manifestation is enteritis.

Case No. 651.—Presented by DR. CARSON, was a baby eleven months of age, admitted to the hospital April 8 and discharged 24 hours later, in order to be taken to a hospital in Los Angeles. The records say that this is a dehydrated baby, having from seven to eight watery green bowel movements per day. It had been ill about three days before coming in. The child was given a normal saline solution intraperitoneally and was placed on a high protein, low fat diet. It was also given glucose and insulin, hypodermatically under each breast. The child was better within 24 hours. Dr. Charvoz saw the patient in consultation and his records read, the child was pale and listless, and had dark circles under the eyes, muscles were flaccid and abdomen was soft and tympanitic throughout. The liver and spleen were normal in size; heart sounds were normal, pulse was normal and reflexes not changed. Diagnosis was fermentation diarrhea, and he concurred in the treatment recommended by Dr. Carson. The baby went to California, where it died on the 13th of April, five days after admission to our hospital. An autopsy was performed by Dr. Mona Bettin, who found an acute encephalitis to be the primary cause of death, with other essential findings as follows: hypostatic congestion of both lungs; fatty liver; congestion of kidneys; and apparently healed enteritis. Culture of the heart blood was negative.

Case No. 872.—Presented by DR. J. D. HAMER. Baby, nine months of age, which had been vomiting for several days, not able to retain water and having many watery stools. Temperature up to 105. Dr. Hamer's record is as follows: Two weeks prior to onset, child had had a severe coryza which lasted from five to six days. Then for one week child apparently had been well, until Saturday, May 7th, when mother noticed baby was very fretful, refused its food, and slept poorly. The following day, May 8th, child began having anorexia, and the small amount of food taken was vomited. The sixth day, it began having a diarrhea; color was normal but watery at first; by Wednesday, May 11, there were fifteen to twenty

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(THIRD EDITION)

By ROGER H. DENNETT, B.S., M.D.

Professor of Diseases of Children and Director of the Department in the New York Post-Graduate Medical School; Attending Physician in the Babies' Wards of the New York Post-Graduate Hospital; Consulting Pediatrician to the Victory Memorial Hospital, Brooklyn, The Passaic General Hospital, The New York Episcopal Orphans' Home and Asylum, etc., Fellow of The New York Academy of Medicine.

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profuse, thin, squirty, greenish, foul smelling stools per day; no blood or pus noted in stools.

From onset until day child entered hospital (May 14), the mother noted a decided loss of weight. Babe didn't take food well, and any nourishment taken was promptly evacuated. Child continued to waste, and by Friday, May 13, mother noted that child's eyes were deeply sunken, the cornea seemed to have a "scum" over it. The body was greatly emaciated, and breathing was very rapid, at times irregular and difficult. By Saturday, May 14, child seemed in a stupor, and was inattentive to all surroundings. No history of convulsions, although neck and limbs were stiff at times on May 13th and 14th. No exposure to contagious diseases, no skin rashes nor cough.

Father and mother were both well. One sister, living and well (3½ yrs.). No history of familial diseases. Mother experienced no antepartum difficulties. No exposure to tuberculosis or other diseases.

From time child was one month old, the parents have been on a tour of southern states, camping along the way. This was second child, normal birth, full term, easy labor, spontaneous respiration. Attended by a physician. Breast fed, at first every two hours, later every four hours, by mother until three and one-half months of age. Baby began to regurgitate food at intervals at this age, mother thought it wasn't getting enough to eat, so she began giving Eagle brand, three ounces every two hours, (more or less), regularly until three weeks ago, when whole cow's milk was substituted in a dilution of two ounces milk, six ounces water, and a bit of sugar added. During present illness, mother again tried Eagle brand until a local doctor placed child on mixture of barley water, Mellen's food (dextri-maltose) and an occasional white of egg, one and half ounces every one to two hours, during the illness. It was also given two kinds of medicine, to one of which orange juice was added. For past few months child has been fed at irregular intervals, water sometimes not boiled, tomato juice, butter, crackers, bread, olive oil, and orange juice.

No pigmentations, icterus or swellings. No opisthotomos or convulsions. No cradle cap, fontanelles normal. Hearing O. K., no discharge. Eyes negative, no squint or photophobia. Nose occasionally cold. Mouth, first tooth age five months; second, five and half months; third, eight months. Throat, no swollen glands, nor sore throat, croup, hoarseness nor laryngospasm. Lungs, negative. Heart, no blueness of skin. No hematemesis, pus or bloody stools, no hernia nor tenesmus. Muscles, good tone and activity, no paralysis. Bones, no deformities, swellings nor pain.

The child died one week after admission to the hospital.

Autopsy:—Skin dry, marked emaciation and practically no subcutaneous fat. Omentum very thin. Intestines distended with gas. No evidence of peritonitis. Left lung shows no definite changes. Right lung hyperemic at base. Pericardium negative. Heart normal. Liver negative. Small intestines negative. Colon fairly diffuse colitis without ulceration. Stomach negative. Brain marked edema and hyperemia. Cause of death, anhydremia and edema of brain.

Dr. Dunn, in opening the discussion, said that he believed that these babies die from dehydration and foreign protein intoxication. For years it has been his practice to take away milk entirely, and to substitute high carbohydrate diet, usually with barley water, crackers, and tea. In extreme cases he introduces the Jute duodenal tube, by which he gives the foods and liquids. The tube may be introduced through the nose. Dr. Thomas said that he agreed with Dr. Dunn that milk should be eliminated and carbohydrates substituted. Dr. Bannister said he had had more of these seriously ill babies this year than usual, but that he had had them other years, and he believes that death results from edema of the brain caused from the excessively high temperature.

ORVILLE HARRY BROWN,
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The program of the Inter-State Post Graduate Assembly of North America, to be held at Kansas City, Mo., October 17-20, 1927, has been received. This Assembly will offer the usual high grade of diagnostic clinics by men of national repute, covering most of the specialties in medicine and surgery. This annual Assembly has become one of the notable meetings for clinical teaching and attracts a larger and larger number of visitors each year. Any one interested in seeing the complete program can secure full information from Dr. Wm. B. Peck, Managing Director of the Inter-State Post Graduate Assembly, Freeport, Ill.

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ANNUAL REPRINT OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR 1926

With comments that have appeared in The Journal. Cloth. Price, $1.00. Pp. 73, Chicago; American Medical Association, 1927.

Reports are given on the following articles found not acceptable for New and Nonofficial Remedies: Allonal, Animasa, three benzyl benzoate preparations, Ceanothyn, Cresog, Firma Chloro, Idozan, Malt Nutrine, Murarsenide, Naftalan, Neo-Reargon, Nontox, Numoquin, Oleosolution, "Pabst Extract—The 'Best' Tonic," Phenoseptine Cones and Phenoseptine Powder, Pollen Antigen Spring Type-Lederle, Rad-X-Solution A and Rad-X-Solution B, Robes' Anti-rheumatic Injection, Sodium Methylarsenate (De Marsico), Ster-Alco, Sulcitacium, Tetradol, Thymo-Borine, Toxivi, Toxok, and Triophos. Besides these there are reports on a number of articles that have been omitted from New and Nonofficial Remedies.

The volume also contains the folowing special reports of current interest to physicians; a report on the status of bacillus acidophilus and bacillus bulgaricus therapy, on the basis of which the N. N. R. article on Lactic Acid-Producing Organisms has been revised and rewritten; a report dealing with the esteem in which antistreptococcus serum is now held by leading surgeons, gynecologists and obstetricians, prepared by Dr. Emil Novak on the basis of the answers to a questionnaire sent to representative members of these groups; and a preliminary report on the status of the new drug, Ephedrine.

New and Nonofficial Remedies, 1927, containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1927. Cloth. Price, postpaid, $1.50. Pp. 473 XLVII. Chicago. American Medical Association.

The appearance of the annual edition of New and Nonofficial Remedies is looked upon as an event among all those interested in drugs and their therapeutic use. The text is so carefully scrutinized and revised each year by the various members of the Council on Pharmacy and Chemistry that each issue is essentially a new book, a safe guide to the frontier that lies between the official drugs and the latest preparations launched by the pharmaceutical manufacturers.

Among the preparations newly admitted to the book are: Isacen, a product related to phenolphthalein; Ipral, a barbital hypnotic; a cod liver oil concentrate having a definite vitamin A and vitamin B potency; and three erysipelas streptococcus antitoxin preparations.

New and Nonofficial Remedies is indispensable to any physician who prescribes drugs. It contains information about medical products which cannot be found in any other publication.

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Each of these concerns brings into the new company a wealth of valuable assets in the form of good-will and confidence of the medical profession and other users of chemicals, these assets having been earned through many years of production of high quality chemicals and research work. The production of pure alkaloids was first developed by the Merck factory in Darmstadt; since the establishment of the United States branch in 1891, they have been leaders in the production of alkaloids and pure medicinal chemicals. The firm which eventually became Powers & Weightman was established in Philadelphia in 1818, and have been leaders in research chemistry since that time; among their first products were quinine and ether, and they have been among the largest manufacturers in the world of quinine, citric acid and opium preparations. The new firm will, no doubt, go far toward placing and keeping American chemical products in the lead.

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Doctors who lived formerly in Illinois, or who are descendants of pioneer physicians of the "Illinois country" will hear with interest that Volume One of the "History of Medical Practice in the State of Illinois" is ready for delivery.

The History has been written under the supervision of a committee appointed by the Illinois State Medical Society as a commemoration of its seventy-fifth anniversary but more especially to make a living tribute to those valiant men of the medical profession who played so able a part in the exploration, settlement and development of the Illinois country.

In this first volume of the History are set down events from the earliest available knowledge of conditions in the Illinois country, along through the days of the aborigines, and commencing with the actual records when, in 1673 Father Marquette had medical attention in Chicago, up until the year 1850.

In the second volume (now in preparation), narration continues up until the present time. Future years will bring other volumes so that this history will be an ever virile monument to the men and incidents whom it would honor.

The edition is limited. It will not be reprinted. A place in every physician's library is merited by this volume, both as a tribute to the men who blazed the trail for modern scientific medicine and as ever present reminder and authority as to what is happening to medicine right in this state every day, so far as finance, discovery, legislation and public relations are concerned, and the men who are responsible for the heritage of trust for over two centuries and a half. Volume One is now ready. Volume Two will follow soon. Orders

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may be sent to Committee on Medical History, Illinois State Medical Society—Medical & Dental Arts Building, 185 North Wabash Avenue, Chicago, Illinois, Charles J. Whalen, M. D., Chairman.

TULANE UNIVERSITY POST-GRADUATE COURSES

Tulane University of New Orleans is announcing its courses in the Graduate School of Medicine, information regarding which will be furnished upon application to the Dean, 155 Canal St., New Orleans.

This school is becoming increasingly popular among the doctors of the Southwest, for winter study.

W. B. SAUNDERS COMPANY NEW CATALOG

The publishing house of W. B. Saunders Company, Philadelphia, have issued a beautiful catalog of medical publications, describing forty-two new books and new editions. It would be profitable for any doctor to secure a copy of this catalog and see whether his library will not benefit by several new volumes. Every department of medicine is covered in this list.

ANOTHER SPECIALIST

We received a call the other day from a prominent bootlegger. On the lower left of his calling card was engraved, "Bootician."

ANATOMICAL

"Ultimately," says a critic, discussing Londoners' preference for riding instead of walking, "legs will merely be ornaments." But only some.

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PERSONALS
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DR. A. C. KINGSLEY, of Phoenix, Ariz., announces the opening of offices at 505 Goodrich Building. Dr. Kingsley, who was formerly superintendent of the State Hospital for the Insane of Arizona, will give special attention to Neurology and Psychiatry. He will, no doubt, receive a cordial welcome in Phoenix, where there is a field for such a specialist.

DR. AND MRS. VICTOR RANDOLPH, of Phoenix, left about August 1st, for study and recreation at various points of the compass. They will visit Mrs. Randolph's people in Dallas, Texas, and then will spend some weeks in Boston where Dr. Randolph will take courses at the Massachusetts General Hospital.

DR. AND MRS. WIN WYLIE and family, of Phoenix, recently returned from a vacation of several weeks spent in the northwest and Canada. Their journey was by motor and covered several thousand miles, including most of the points of scenic interest in the northwest and western Canada.

DR. AND MRS. CHARLES S. VIVIAN, of Phoenix, left about August 1st for a vacation of some weeks, to be spent on the coast.

DR. AND MRS. HARLAN P. MILLS, of Phoenix, returned August 15th from their vacation spent in northern New Mexico and northern Ari-

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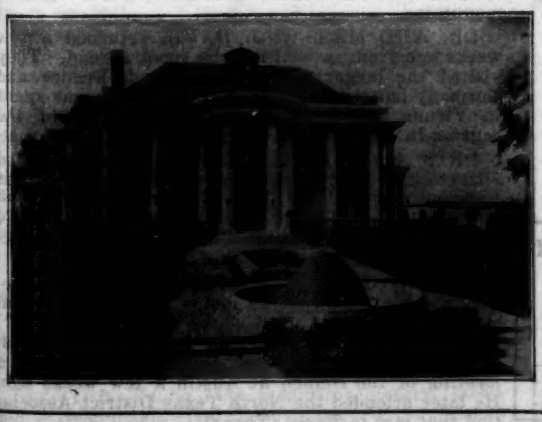

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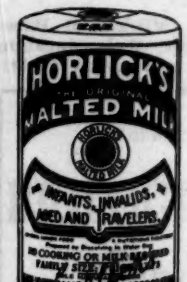

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zona. They visited the archeological ruins and historical points about Taos, Santa Fe and Albuquerque.

DR. R. J. STROUD, of Tempe, Ariz., is recuperating from a serious illness. Beginning as a streptococcic throat infection, the involvement spread to the kidneys. After a week or two in the Deaconess Hospital in Phoenix, the acute symptoms in the kidneys subsided and the doctor has gone to the coast for a period of rest and convalescence. His many friends in Arizona will hope for his speedy and complete recovery.

DR. JAMES M. GREER, of Mesa, with his family, are combining recreation with some work in the White Mountains of Arizona. Between onslaughts upon the trout streams of that region, Dr. Greer will attend to the medical and surgical needs of the inhabitants of McNary for a month.

DR. GEORGE M. BROCKWAY, of Phoenix, has returned from a six weeks' vacation spent on the coast, combining pleasure with business in connection with his work as district surgeon for the Southern Pacific and Santa Fe lines.

DR. VERNON KENNEDY, of Phoenix, was rerecently operated upon for acute appendicits. Dr. Kennedy, who recently became associated with Dr. George E. Goodrich, was born in Phoenix; after receiving his education in California, he resisted many attractive opportunities to locate in that state, and answered the call of his native state and returned here to practice.

DR. M. C. COMER, surgeon in charge of eye, ear, nose and throat department, Thomas-Davis Clinic at Tucson, attended the recent annual meeting of the Pacific Coast Oto-Ophthalmological Society held at Spokane, Washington. While there he successfully stood the examination and was issued certificate by the American Board of Oto-Laryngology.

(EL PASO)

DR. AND MRS. W. L. BROWN and daughter, Louise, are spending the month of August in Santa Fe.

DR. J. A. RAWLINGS and family are on an extended motor trip through New Mexico and Arizona with the Grand Canyon as their destination.

DR. HARRY LEIGH has returned from a visit of several weeks to the Chicago clinics. His reason for going at this time was to make possible attending the dedication of the new Northwestern Medical School.

DR. G. WERLEY, together with his wife, DR. SWEET-WERLEY, and their young son,are on a several weeks motor vacation in the New Mexico mountains.

DR. AND MRS. W. J. DAVIS returned a few weeks ago from several months spent abroad. They visited the larger clinics of England, France and Germany but the major part of their time was spent in Vienna, where Dr. Davis took several of the courses in his specialty of eye, ear, nose and throat.

DR. S. A. SCHUSTER is home after an extended visit to the New York clinics. His work was at Bellevue and the New York Eye and Ear Hospital.

The many friends of DR. JAMES M. BRITTON will be pleased to know that he is rapidly convalescing from typhoid fever at this time.

DR. AND MRS. H. E. STEPHENSON have returned from a two weeks motor trip to San Francisco.

DR. J. W. LAWS, councilor for the El Paso district of the State Medical Association, attended a meeting of the council at Austin a few weeks ago. He later attended the North Texas District Association that met in Paris (Texas).

COL. C. M. HENDRICKS has returned from active duty as commanding officer of the medical regiment of the 90th Division which has been on maneuvers at Camp Travis.

DR. AND MRS. J. W. CATHCART are at this time on a motoring vacation through New Mexico.

DR. F. P. MILLER, president-elect of the Texas State Medical Association has completed his first official tour of the state. He addressed the North Texas District meet at Paris as well as the Dallas County Medical Society. Other cities visited by Dr. Miller were Houston and Ft. Worth, where he called upon the secretary, Dr. Holman Taylor. Mrs. Miller accompanied Dr. Miller on his tour.

DR. F. J. VICKERS of Deming was a professional visitor to El Paso the second week in August.

DR. AND MRS. W. W. WAITE and family are on an extended motor trip in their Lincoln that is taking them to many eastern points. When last heard from they had arrived on schedule and without mishap in Boston where they will remain several weeks before again starting for the Southwest.

MISS MARY BUTLER, R. N., official anesthetist at Hotel Dieu, is attending the clinics at Johns Hopkins for the next few weeks.

DR. FRANK J. MILLOY, internist for the Southwest Clinic, Phoenix, has returned from six weeks spent in the clinics of Chicago and Rochester, Minn., reviewing the work in his field.

DR. AND MRS. GEORGE M. BROCKWAY, of Phoenix, after planning a month's tour of the eastern cities, were forced to interrupt their plans at the last moment and, instead, Mrs. Brockway was placed in hospital in Los Angeles for a major operation. Dr. Brockway has returned to his practice in Phoenix, leaving Mrs. Brockway on the coast, where she is convalescing.

DR. DUDLEY FOURNIER, of the Southwest Clinic, Phoenix, has gone to the coast cities for two weeks vacation and recreation.

DR. FRED T. FAHLEN, Phoenix, State Superintendent of Public Health, is convalescing satisfactorily from his recent operation for removal of ureteral stone.

DR. C. H. OLIVER, of Glendale, Ariz., who has been taking care of the practice of Dr. R. C. Martin during the summer, will take over that location permanently. DR. MARTIN, after some special work in Chicago will locate ni California.

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